

STN Interoperability Test Plan

Contribution and Rollover Transactions

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VERSION CONTROL

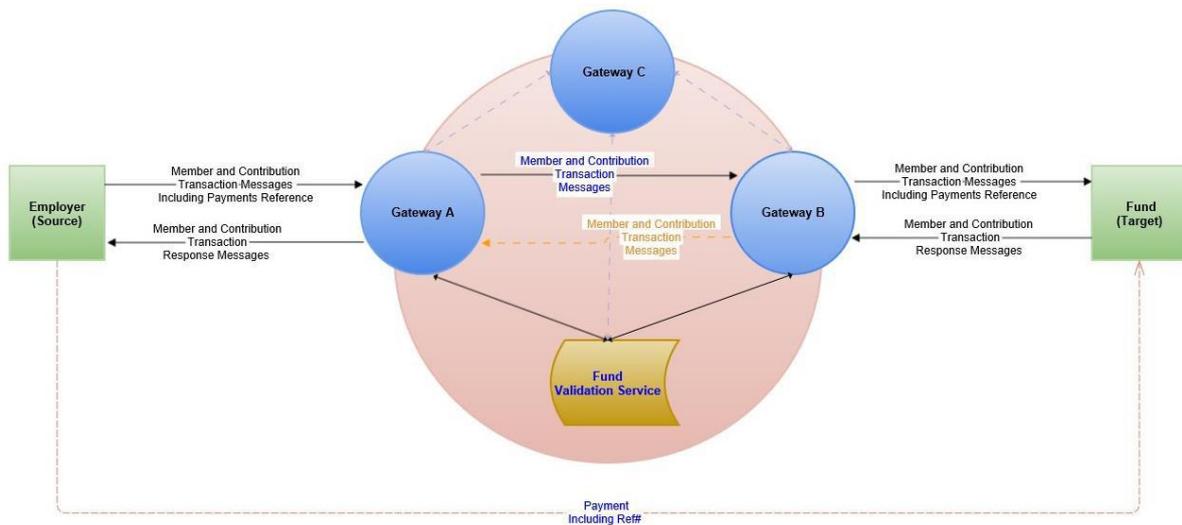
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1 INTRODUCTION

This document is to provide guidance for Gateway Operators within the Superannuation Transaction Network (STN) when undertaking interoperability testing against the SuperStream standards for superannuation contribution and rollover transactions.



1.1 INTEROPERABILITY TESTING

Interoperability testing must be undertaken by:

- existing Gateway Operators for the implementation of major changes to the SuperStream standards, and
- new candidate Gateway Operators wishing to enter the STN. New candidate gateway operators should follow the *Superannuation Transactions Network - Process and requirements for New Gateway Operators*.

Note, interoperability testing can only be completed during defined test windows.

Gateway Operators must perform interoperability testing for each category of transactions (Contributions and / or Rollovers) that are handled by the Gateway Operator, according to the mandatory test scenarios listed in this document:

- **Appendix 2** - for Contribution transactions, and
- **Appendix 3** - for Rollover transactions

The SuperStream Contribution transactions consist of:

- Member Registration Request (MRR)
- Member Registration outcome Response (MROR)
- Member Contribution Transaction Request (CTR)
- Member Contribution Error Response (CTER)

The SuperStream Rollover transactions consist of:

- Initiate Rollover Request (IRR)
- Initiate Rollover Error Response (IRER)
- Rollover Transaction Request (RTR)
- Rollover Transaction Outcome Response (RTOR)

2 INTEROPERABILITY TESTING PROCESS

2.1 PRE-REQUISITES

To commence testing, Gateway Operators must have in place both:

- a. A testing environment and
- b. A production operating environment.

All testing should be conducted within the test environment so as not to impact the live transactions passing through the STN.

New candidate Gateway Operators should follow the *Superannuation Transactions Network - process and requirements for New Gateway Operators*. A new candidate Gateway Operator must have completed the specified entry requirements before commencing interoperability testing with existing Gateway Operators.

2.2 TYPES OF TESTING

The testing process consists of the following types of testing.

1. Internal Testing.

This testing is to be conducted within each organisation before interoperability testing and may include testing of hardware and applications making up components of the Gateway technology. This testing must be completed prior to the next steps.

2. Connectivity Testing.

This testing proves the ability to connect to other Gateway Operators in test and production environments.

3. Message Send / Receive Testing.

This testing ensures the connection allows a message to be successfully sent or received.

4. Format and Error Message Testing

This testing ensures the ability to generate appropriate technical receipt or error messages.

5. Regression / Integrity Testing.

This testing ensures any changes to member registration and contribution messages have not corrupted any other parts of the existing transactions or connections.

2.3 INTEROPERABILITY TESTING STEPS

Interoperability testing relates to message level testing only and not application-level testing of additional services provided by a gateway.

The interoperability testing process consists of the following steps.

1. Step 1 – Internal testing

The Gateway Operator must complete internal functional testing prior to commencing testing with another certified Gateway operator. This includes:

- Message acknowledgement and processing
- Message generation
- Message compression in accordance with the Gateway Profile,

2. Step 2 – Interoperability Test Scheduling

Gateway test partners must be given sufficient notification to prepare for interoperability testing, which may be coordinated by the GNGB.

Gateway Operators are to work with their partners to schedule testing (example of schedule below) to be completed within the allocated test windows.

Gateway Operators must provide the following details:

- Production, Test and DR environment connectivity details
- Out of Hours Contact Details
- Proposed release schedule

Seq. No.	Gateway	Testing Dates			Contact Details
		Connectivity	MHS Layer Connectivity	Application Layer	
1.	Gateway 1	05/05/2014 – 16/04/2014	19/05/2014 – 30/05/2014	02/06/2014 – 13/06/2014	
2.	Gateway 2				
3.	Gateway 3				
4.	Gateway 4				
5.	Gateway 5				
6.	Gateway 6				

3. Step 3 – Interoperability Testing

Gateway Operators are to work with their partners and complete the SuperStream Contributions Gateway interoperability testing at **Appendix 2** and **Appendix 3**.

4. Step 4 – Gateway Accreditation

Gateway Operators will certify that each other Gateway has successfully completed each phase of interoperability testing, to the GNGB.

New candidate Gateway Operators will achieve accreditation upon successful completion of interoperability testing with their two allocated test partners. The two allocated test partners will certify completion of the testing to the GNGB.

3 AVAILABILITY FOR TESTING

The Gateway Operators must employ reasonable endeavours to make their systems available for testing during the agreed schedule time. If any Gateway Operator fails to make their systems available for testing in the agreed schedule then the Gateway operator must agree to complete all testing at a different time. The Gateway Operator must not unreasonably withhold or delay in making its systems available for testing.

4 CONNECTIVITY DETAILS

Each endpoint in the Gateway topology needs to provide connectivity details to each of the other end points that they wish to interact with. Refer **Appendix 1** for the connectivity details template.

5 RISKS AND ISSUES REGISTER

Parties are to record risks and issues in the Risks and Issues Register in Appendix in 4 during test planning and the testing.

6 TEST SCENARIOS

The following principles of interoperability should be noted:

1. Each test should be initiated by both parties (but not necessarily tested concurrently).
2. Communication via phone and/or email will be required between the testing parties
3. All payloads will be sent as attachments (i.e. not in the SOAP body) as the aim is to mirror the production environment as closely as possible (production e.g. using compression, which mandates payloads be sent as attachments)
4. Testing should proceed in the order indicated however if an issue arises and a workaround is available, then testing should continue as agreed by the parties.
5. For detailed test scenarios refer to **Appendix 2** and **Appendix 3**

7 COMMUNICATION

A Gateway Interoperability Testing meeting will be conducted initially fortnightly and weekly during test execution period, facilitated by GNGB. GNGB will ask testing participants to report on progress, raise any issues or concerns and present possible solutions to testing challenges, during these meetings.

APPENDIX 1 – CONNECTIVITY DETAILS

Connectivity Attribute Name	Connectivity Attribute Value
Gateway / Endpoint Owner	
Gateway / Endpoint Product Name (If different to Gateway Owner)	
Environment (Specify Production or Test)	
Contact Person Name	
Contact Person Phone Number	
Contact Person Email Address	
ebMS end point URL	
SSL Certificate in p7b format	Sent via email upon request Note: Preference is for .p7b format as this includes the complete trust chain
Message Signing Certificate in p7b format	Sent via email upon request Note: Preference is for .p7b format as this includes the complete trust chain
Username and password, to be used for the WS-Security Username Token if applicable – ATO indicated intention of specification is that Signing obviates need for Username Token (although profile specifications appear additive)	For security reasons it is preferable to avoid inclusion of the username and password in this format but rather supply it via an encrypted email, phone call or SMS
Source IP address or range	
DR IP address or range	
ABN identifying the gateway entity. Used as 'to' partyId for messages received by this endpoint and 'from' partyId for message sent by this endpoint.	
ebMS3 Heard eb:AgreementRef	

APPENDIX 2 – CONTRIBUTION TRANSACTIONS TEST SCENARIOS

MANDATORY TEST SCENARIOS FOR TRANSPORT LAYER

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
1. Transport Layer Connectivity (https)	Superstream Contributions Conformance Testing Guide Version 0.78 Section: 3.1.4	1.1 Establish https connection between endpoints	All	Use telnet, wget or curl etc., to establish that appropriate ports are open. Curl can be used to submit a file containing an ebMS3 message and should display the signal message reply	The two parties performing the interoperability testing exchange endpoint URLs, certificates and username and password. Each party configures their ebMS3 / AS4 MSH to register the other party. It is recommended that any messages received by the MSH during this phase should not be submitted to the application for processing	Both parties have configured their infrastructure to allow the flow of ebMS messages from the internet to their MSH. It is not required that any signal message returned to the sender is a success message

MANADATORY TEST SCENARIOS FOR MESSAGE SERVICE HANDLER LAYER

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
2. Message Service Handler (MSH) Layer connectivity	Superstream Contributions Conformance Testing Guide Version 0.78	2.1 Send a simplified message from the sender MSH to the receiver MSH. Reduced complexity: no compression, no signing, no encryption, single payload. Payload and PayloadInfo properties are ignored	- All New Gateway Operators	Sender MSH pushes uncompressed, unsigned, single payload message with arbitrary payload contents using Username/Password authentication. Receiving MSH should receive the message if no MSH errors. Sender reviews signal message response. Receiver reviews received message, ignoring payload	A simple message with any payload is sent from each party to the other party. This test verifies that to/from PartyId header fields have been set correctly and that the sender and receiver have been configured correctly to send and receive messages to and from the other party. The payload included with the message is ignored by the other party. Any complexities in relation to certificates used for signing, compression etc., are eliminated by this simple test. It will, however, be necessary to have the SSL certificate configured to allow https to work.	Sender should receive a success receipt. Receiver should receive message without error. Note: as the payload is arbitrary this may cause failures in your application layer if it is connected to the MSH at this time. In this phase of testing it is expected that you will ignore application layer failures
	Superstream Contributions Conformance Testing Guide Version 0.78	2.2 Send a simplified message from the sender MSH to the receiver MSH with PayloadInfo part properties configured for a particular source / target fund combination. Payload contents are ignored	- All New Gateway Operators	As above plus the receiver checks that the received message has PayloadInfo part properties correctly configured for a target fund that their application knows about. This is just a manual check as the MSH is not required to perform this type of validation of application layer entities	Parties must communicate to each other the desired target ABN and target USI that they would like in the payload info part properties. Proper values are not strictly required for this test but setting them correctly during this test means that they will not need to be changed in subsequent tests where they are required to match particular entities in application layer	As above with manual verification that the target/source ABN/USI values in the partinfo properties are as requested
	Superstream Contributions Conformance Testing Guide Version 0.78	2.3 Test message signing and signature validation	- All New Gateway Operators	As above plus configure MSH to sign messages targeted at the partner you are testing with and validate the signature of messages	Tests that message signing and validation works for positive scenarios	Messages should be signed

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
				received from that partner		
			- All New Gateway Operators	As above plus configure an incorrect certificate for outgoing messages. Send a message and confirm that receiver responds with a SOAP fault	Tests that message validation fails for negative scenarios	Messages should
	Superstream Contributions Conformance Testing Guide Version 0.78	2.4 Test message compression	- All New Gateway Operators	As above plus message compression turned on	Tests the sender/receiver MSH's message compression/decompression functionality	Payload should be compressed across the wire but be uncompressed by the receiving MSH and make an uncompressed payload available to the application
	Superstream Contributions Conformance Testing Guide Version 0.78	2.5 Multiple payloads - non compressed	- All New Gateway Operators	As above, no compression but with more than one payload.	Tests support for multiple signed, uncompressed payloads.	Multiple payloads should be received without any ebms errors. Any application layer on the receiving end should receive uncompressed payloads.
	Superstream Contributions Conformance Testing Guide Version 0.78	2.6 Multiple payloads – compressed	- All New Gateway Operators	As above but with compressed payloads.	Tests support for multiple signed, compressed payloads.	Multiple payloads should be received without any ebms errors. Any application layer on the receiving end should receive uncompressed payloads.
	Superstream Contributions Conformance Testing Guide Version 0.78	2.7 Duplicate message test	All	Send two messages with the same eb:MessageId value	Tests correct duplicate message ID handling behaviour	Sender should receive a receipt for both messages (i.e. not an ebMS error). It is up to the receiver MSH to ensure that, even though it does not raise an ebMS error that it successfully drops the duplicate message and therefore does not pass it onto the application layer.

MANDATORY TEST SCENARIOS FOR MESSAGE SERVICE HANDLER LAYER (PAYLOAD AGNOSTIC)

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
3. Message Service Handler Layer (payload agnostic)	Superstream Contributions Conformance Testing Guide Version 0.78	3.1 Send a MemberRegistrationRequest Message with dummy data	All	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.2 Send a MemberRegistrationRequest Message with existing member updated dummy details	All	As above plus the Sender application generates a MemberAmendRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.3 Send a MemberRegistrationRequest Message for existing member with dummy exit details	All	As above plus the Sender application generates a MemberExitRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.4 Send a MbrRegAndContTrxnRequest Message with dummy data	All	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
				processing		
	Superstream Contributions Conformance Testing Guide Version 0.78	3.5 Send a ContributionRequestTransaction Message with dummy data	All	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.6 Send a ContributionTransactionResponse message (if applicable to gateway) with dummy data	All	As above plus the Receiver replies with a ContributionTransactionResponse message which the Sender of the original message processes	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.7 Send a MemberRegistrationResponse message (if applicable to gateway) with dummy data	All	As above plus the Receiver replies with a MemberRegistrationResponse message which the Sender of the original message processes	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format
	Superstream Contributions Conformance Testing Guide Version 0.78	3.8 Send a MbrRegAndContTrxnResponse message (if applicable to gateway)	All	As above plus the Receiver replies with a MbrRegAndContTrxnResponse message which the Sender of the original message processes	Tests the chain of communications links between sender and receiver application layers. Verify part properties and receiver elements.	Receiver application should have received the data and all the mandatory data in part properties is provided with incorrect format

OPTIONAL TEST SCENARIOS FOR APPLICATION LAYER

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
4. Application Layer Connectivity (Non exhaustive). NOTE: The intention of these application layer tests is to perform basic, preliminary application layer testing. They are not intended to replace the end to end test suite performed by the funds	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.01	4.1 Send a MemberRegistrationRequest Message with correct data (TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberRegistrationRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.03	4.2 Send a MemberRegistrationRequest Message with correct data (TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberRegistrationRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.02	4.3 Send a MemberRegistrationRequest Message with multiple members data (TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberRegistrationRequest message

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.04	4.4 Send a MemberRegistrationRequest Message with multiple members data (TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberRegistrationRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.01	4.5 Send a MemberRegistrationRequest Message with existing member updated details	FullMsp – perform test in both directions. RecOnlyMsp – perform test as receiver only	As above plus the Sender application generates a MemberAmendRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberAmendRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.02	4.6 Send a MemberRegistrationRequest Message with multiple existing members updated details	FullMsp – perform test in both directions. RecOnlyMsp – perform test as receiver only	As above plus the Sender application generates a MemberAmendRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberAmendRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.01	4.7 Send a MemberRegistrationRequest Message with existing member exit details	FullMsp – perform test in both directions. RecOnlyMsp – perform test as receiver only	As above plus the Sender application generates a MemberExitRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MemberExitRequest message

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.01	4.8 Send a MbrRegAndContTrxn Request Message with correct data (Single member TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MbrRegAndContTrxnRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.02	4.9 Send a MbrRegAndContTrxn Request Message with correct data (Multiple members TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MbrRegAndContTrxnRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.03	4.10 Send a MbrRegAndContTrxn Request Message with correct data (Single member TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MbrRegAndContTrxnRequest message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.04	4.11 Send a MbrRegAndContTrxn Request Message with correct data (multiple members TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a MbrRegAndContTrxnRequest message

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.01	4.12 Send a ContributionRequestTransaction Message with correct data (Single member and TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a ContributionRequestTransaction message
	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.02	4.13 Send a ContributionRequestTransaction Message with correct data (Multiple members and TFN provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a ContributionRequestTransaction message
	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.03	4.14 Send a ContributionRequestTransaction Message with correct data (Single member and TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a ContributionRequestTransaction message
	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.04	4.15 Send a ContributionRequestTransaction Message with correct data (Multiple members and TFN not provided)	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver application should have received and processed a ContributionRequestTransaction message

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse message	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.01	4.16 Send a ContributionTransactionResponse message for single member (if applicable to gateway)	Both FullMsp and RecOnlyMsp should test sending of an CTR	As above plus the Receiver replies with a ContributionTransactionResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of contribution transaction request & outcome response messages	Originators of ContributionRequestTransaction message should receive appropriate ContributionTransactionResponse message
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.01	4.17 Repeat above test with mismatched payload for single member (if applicable to gateway)	FullMsp – perform test in both directions. RecOnly – perform test as CTR receiver only	Exercise a negative scenario where payloadInfo part properties contain a target fund ABN/USI that is serviced by the destination gateway but where the XBRL payload data does not match the target fund ABN/USI provided in the PayloadInfo part properties.	Tests behaviour of application layer in regard to how it deals with mismatched payload and payloadInfo part properties data	Receiver should send an ContributionRequestTransaction back to the sender with an error explaining that the mismatch.
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse message	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.02	4.18 Send a ContributionTransactionResponse message for multiple members (if applicable to gateway)	Both FullMsp and RecOnlyMsp should test sending of an CTR	As above plus the Receiver replies with a ContributionTransactionResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of contribution transaction request & outcome response messages	Originators of ContributionRequestTransaction message should receive appropriate ContributionTransactionResponse message
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse	Superstream Contributions Conformance Testing Guide Version 0.78 CTR.02	4.19 Repeat above test with mismatched payload for multiple members (if applicable to gateway)	FullMsp – perform test in both directions. RecOnly – perform test as CTR receiver only	Exercise a negative scenario where payloadInfo part properties contain a target fund ABN/USI that is serviced by the destination gateway but where the XBRL payload data does not match the target fund ABN/USI provided in the PayloadInfo part properties.	Tests behaviour of application layer in regard to how it deals with mismatched payload and payloadInfo part properties data	Receiver should send an ContributionRequestTransaction back to the sender with an error explaining that the mismatch.

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a MemberRegistrationResponse message	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.01	4.20 Send a MemberRegistrationResponse message (if applicable to gateway) for single member	Both FullMsp and RecOnlyMsp should test sending of an MRR	As above plus the Receiver replies with a MemberRegistrationResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of member transaction request & outcome response messages	Originators of MemberRegistrationRequest message should receive appropriate MemberRegistrationResponse message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.02	4.21 Send a MemberRegistrationResponse message (if applicable to gateway) for multiple member	Both FullMsp and RecOnlyMsp should test sending of an MRR	As above plus the Receiver replies with a MemberRegistrationResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of member transaction request & outcome response messages	Originators of MemberRegistrationRequest message should receive appropriate MemberRegistrationResponse message
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a MemberRegistrationResponse	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.01, MRR.02	4.22 Repeat above two test with mismatched payload (if applicable to gateway)	FullMsp – perform test in both directions. RecOnly – perform test as MRR receiver only	Exercise a negative scenario where payloadInfo part properties contain a target fund ABN/USI that is serviced by the destination gateway but where the XBRL payload data does not match the target fund ABN/USI provided in the PayloadInfo part properties.	Tests behaviour of application layer in regard to how it deals with mismatched payload and payloadInfo part properties data	Receiver should send an MemberRegistrationRequest back to the sender with an error explaining that the mismatch.
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a MbrRegAndContTrxnResponse message	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.01	4.23 Send a MbrRegAndContTrxnResponse message (if applicable to gateway) with single member	Both FullMsp and RecOnlyMsp should test sending of an MRCR	As above plus the Receiver replies with a MbrRegAndContTrxnResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of member and contribution transaction request & outcome response messages	Originators of MemberRegistrationRequest message should receive appropriate MbrRegAndContTrxnResponse message
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.02	4.24 Send a MbrRegAndContTrxnResponse message (if applicable to gateway) with single member	Both FullMsp and RecOnlyMsp should test sending of an MRCR	As above plus the Receiver replies with a MbrRegAndContTrxnResponse message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of member and contribution transaction request & outcome response messages	Originators of MemberRegistrationRequest message should receive appropriate MbrRegAndContTrxnResponse message

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
NOTE: Applicable only if gateway has a connected fund (real or simulated) that can create a MbrRegAndContTxnResponse	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.01 MRCTR.02	4.25 Repeat above test with mismatched payload (if applicable to gateway)	FullMsp – perform test in both directions. RecOnly – perform test as MRCR receiver only	Exercise a negative scenario where payloadInfo part properties contain a target fund ABN/USI that is serviced by the destination gateway but where the XBRL payload data does not match the target fund ABN/USI provided in the PayloadInfo part properties.	Tests behaviour of application layer in regard to how it deals with mismatched payload and payloadInfo part properties data	Receiver should send an MbrRegAndContTxnResponse back to the sender with
	Superstream Contributions Conformance Testing Guide Version 0.78 MROR.01	4.26 Send a single MemberRegistrationRequest Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single MROR back to the sender with an error explaining the error with code SUPER.GEN.GEN.4
	Superstream Contributions Conformance Testing Guide Version 0.78 MROR.02	4.27 Send a multiple MemberRegistrationRequest Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single MROR back to the sender with an error explaining the error with code SUPER.GEN.GEN.4 with partial severity
	Superstream Contributions Conformance Testing Guide Version 0.78 MRR.03	4.28 Send a multiple MemberRegistrationRequest Message with missing mandatory value for different members	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MemberRegistrationRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a multiple MROR back to the sender with an error explaining the error with code SUPER.GEN.GEN.4 with Progressive severity

Phase	Reference	Test	MSP1	Actions	Description	Expected Results
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.E01	4.29 Send a single member MbrRegAndContTrxn Request Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single MROR/CTER back to the sender with an error explaining the error with code SUPER.GEN.GEN.4
	Superstream Contributions Conformance Testing Guide Version 0.78 MRCTR.E02	4.30 Send a multiple member MbrRegAndContTrxn Request Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single MROR /CTER back to the sender with an error explaining the error with
	Superstream Contributions Conformance Testing Guide Version 0.78 CTER.01	4.31 Send a single member ContributionRequestTransaction Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single CTER back to the sender with an error explaining the error with code SUPER.GEN.GEN.4
	Superstream Contributions Conformance Testing Guide Version 0.78 CTER.02	4.32 Send a multiple member ContributionRequestTransaction Message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp – perform test as MRR receiver only	As above plus the Sender application generates a ContributionRequestTransaction payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting and validation code of each application layer (if applicable to that gateway)	Receiver should send a single CTER back to the sender with an error explaining the error with code SUPER.GEN.GEN.4
<p>1 The MSP column indicates whether or not a particular test applies to a gateway based on its Message Service Provision level. 2 No encryption except for that provided by https. Message encryption is not tested in any phase of this testing as most Gateways will not be using message encryption as encryption is already provided by https.</p>						

APPENDIX 3 – ROLLOVER TRANSACTIONS TEST SCENARIOS

Phase	Test	Actions	Description	Expected Results
1. Transport Layer Connectivity (https)	1.1 Establish https connection between endpoints	Use telnet, wget or curl etc., to establish that appropriate ports are open. Curl can be used to submit a file containing an ebMS3 message and should display the signal message reply	The two parties performing the interoperability testing exchange endpoint URLs, certificates and username and password. Each party configures their ebMS3 / AS4 MSH to register the other party. It is recommended that any messages received by the MSH during this phase should not be submitted to the application for processing	Both parties have configured their infrastructure to allow the flow of ebbs messages from the internet to their MSH. It is not required that any signal message returned to the sender is a success message
2. Message Service Handler (MSH) Layer connectivity	2.1 Send a simplified message from the sender MSH to the receiver MSH. Reduced complexity: no compression, no signing, no encryption*, single payload. Payload and PayloadInfo properties are ignored	Sender MSH pushes uncompressed, unsigned, single payload message with arbitrary payload contents using Username/Password authentication. Receiving MSH should receive the message if no MSH errors. Sender reviews signal message response. Receiver reviews received message, ignoring payload	A simple message with any payload is sent from each party to the other party. This test verifies that to/from PartyId header fields have been set correctly and that the sender and receiver have been configured correctly to send and receive messages to and from the other party. The payload included with the message is ignored by the other party	Sender should receive a success receipt. Receiver should receive message without error. Note: as the payload is arbitrary this may cause failures in your application layer if it is connected to the MSH at this time. In this phase of testing it is expected that you will ignore application layer failures
			Any complexities in relation to certificates used for signing, compression etc., are eliminated by this simple test. It will, however, be necessary to have the SSL certificate configured to allow https to work	

Phase	Test	Actions	Description	Expected Results
	2.2 Send a simplified message from the sender MSH to the receiver MSH with PayloadInfo part properties configured for a particular source / target fund combination. Payload contents are ignored	As above plus the receiver checks that the received message has PayloadInfo part properties correctly configured for a target fund that their application knows about. This is just a manual check as the MSH is not required to perform this type of validation of application layer entities	Parties must communicate to each other the desired target ABN and target USI that they would like in the payload info part properties. Proper values are not strictly required for this test but setting them correctly during this test means that they will not need to be changed in subsequent tests where they are required to match particular entities in application layer	As above with manual verification that the target/source ABN/USI values in the partinfo properties are as requested
	2.3 Test message signing and signature validation	As above plus configure MSH to sign messages targeted at the partner you are testing with and validate the signature of messages received from that partner	Tests that message signing and validation works for positive scenarios	Messages should be signed and be successfully validated
		As above plus configure an incorrect certificate for outgoing messages. Send a message and confirm that receiver responds with a SOAP fault	Tests that message validation fails for negative scenarios	Messages should be signed and fail validation
	2.4 Test message compression	As above plus message compression turned on	Tests the sender/receiver MSH's message compression/decompression functionality	Payloads should be compressed across the wire but be uncompressed by the receiving MSH and make an uncompressed payload available to the application
	2.5 Send a RolloverTransactionRequest message with correct data	As above plus the Sender application generates a RolloverTransactionRequest payload that is sent as an AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	Tests the communications link between sender and receiver application layers. Also tests the formatting and validation code of each application layer	Receiver application should have received and processed a RolloverTransactionRequest message

Phase	Test	Actions	Description	Expected Results
3. Application Layer Connectivity	3.1 Send a RolloverTransactionOutcomeResponse message	As above plus the Receiver replies with a RolloverTransactionOutcomeResponse message which the Sender of the original message processes	Tests the generation, sending, receiving and processing of rollover transaction outcome response messages	Originators of RolloverTransactionRequest message should receive appropriate RolloverTransactionOutcomeResponse message
	3.2 Repeat above tests with mismatched, incorrect data	Exercise a variety of negative scenarios where XBRL payload data does not match PayloadInfo part properties. Exercise negative scenario where target fund ABN/USI is not known by the receiving endpoint	Tests behaviour of application layer in regard to how it deals with invalid/mismatched data	Receivers will be able to exercise their application's XBRL/payload/metadata validation logic and senders will be able to exercise their application's response to such outcome responses
*No encryption except for that provided by https. Message encryption is not tested in any phase of this interoperability test as most Gateways will not be using message encryption as encryption is already provided by https.				

APPENDIX 4 – RISKS AND ISSUES

Reference	Topic Area	Issue	Resolution