

# **STN Interoperability Test Plan**

## **Contribution and Rollover Transactions**

**Version 2.2**  
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## VERSION CONTROL

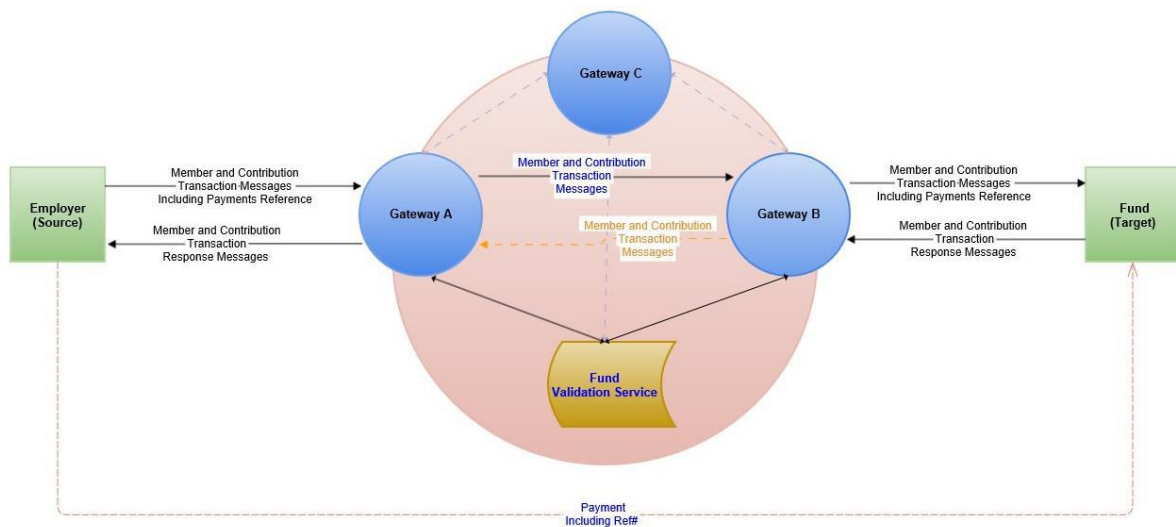
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# 1 INTRODUCTION

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*. New Gateway Operators must test with all other existing Gateway Operators, along with the ATO in order to test government transactions and Small Business Superannuation Clearing House (SBSCH) transactions.

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 Transaction Error Response (CTER)
- Government Contribution Transaction Request (GCTR)
- Government Contribution Transaction Error Response (GCTER)
- Government Contribution Transaction Amendment Request (GCTAR)
- Government Contribution Transaction Amendment Outcome Response (GCTAOR)

The SuperStream Rollover transactions consist of:

- Initiate Rollover Request (IRR)
- Initiate Rollover Error Response (IRER)
- Rollover Transaction Request (RTR)
- Rollover Transaction Outcome Response (RTOR)
- Unclaimed Superannuation Money (USM) from ATO to fund
- Unclaimed Superannuation Money Outcome Response (USMOR)
- Electronic Portability Form (EPF)
- Section 20C Notice
- Section 20C Notice Error Response
- USM from fund to ATO
- USMOR from ATO to fund

## 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 and the ATO.

### 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 and the ATO 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 transactions 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 and the ATO must be given sufficient notification to prepare for interoperability testing, which may be coordinated by the GNGB.

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

Gateway Operators and the ATO 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 and the ATO 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 Operator 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 all existing accredited Gateway Operators and the ATO. Completion of testing to be advised via email to [gomadmin@gngb.com.au](mailto:gomadmin@gngb.com.au) stating that all mandatory tests outlined in Appendix 2 and Appendix 3 of the STN Interoperability Test Plan have been successfully completed. Details of any exceptions or non-applicable test scenarios are to be included in the statement.

## 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 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 facilitated by GNGB as required during the test planning and execution period. 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

### 1. MANDATORY TEST SCENARIOS FOR TRANSPORT LAYER CONNECTIVITY (HTTPS)

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
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

1 The MSP column indicates whether or not a particular test applies to a gateway based on its Message Service Provision level.

## 2. MANADATORY TEST SCENARIOS FOR MESSAGE SERVICE HANDLER (MSH) LAYER CONNECTIVITY

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
2.1	Send a simplified message from the sender MSH to the receiver MSH. Reduced complexity: no compression, no signing, no encryption <sup>2</sup> , 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
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
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 received from that	Tests that message signing and validation works for positive scenarios	Messages should be signed and successfully validated

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
			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 be signed and fail validation
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
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.
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.
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.

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.

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

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
3.1	3.1 Send a MemberRegistrationRequest (MRR) message with dummy data	All	As above plus the Sender application generates a MRR 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
3.2	Send a MRR message with existing member updated dummy details	All	As above plus the Sender application generates a MRR Amendment 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
3.3	Send a MRR message for existing member with dummy exit details	All	As above plus the Sender application generates a MRR 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
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 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

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
3.5	Send a ContributionTransactionRequest (CTR) message with dummy data	All	As above plus the Sender application generates a CTR 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
3.6	Send a ContributionTransactionError Response (CTER) message (if applicable to gateway) with dummy data	All	As above plus the Receiver replies with a CTER 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
3.7	Send a MemberRegistrationOutcome Response (MROR) message (if applicable to gateway) with dummy data	All	As above plus the Receiver replies with a MROR 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
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
3.9	Send a Government Contribution Transaction Request (GCTR) message with correct data	All	ATO generates a GCTR 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 ATO 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 GCTR message
3.10	Send a Government Contribution Transaction Error Response (GCTER) message with correct data	All	As above plus the Receiver replies with a GCTER message which the ATO processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of GCTR and GCTER	ATO should have received and processed appropriate GCTER message
3.11	Send a Government Contribution Transaction	All	ATO generates a GCTAR payload that is sent as an AS4/ebMS3	Tests the generation, sending, receiving, routing, validation (if	Receiver application should have received and processed a GCTAR

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
	Amendment Request (GCTAR) with correct data		message via the MSH to the receiver MSH which passes it onto the receiver application for processing.	provided by the gateway) of GCTAR	message
3.12	Send a Government Contribution Transaction Amendment Request Outcome Response (GCTAOR) with correct data	All	ATO generates a GCTAR 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 generation, sending, receiving, routing, validation (if provided by the gateway) of GCTAR and GCTAOR	ATO should have received and processed appropriate GCTAOR message

1 The MSP column indicates whether or not a particular test applies to a gateway based on its Message Service Provision level.

#### 4. OPTIONAL TEST SCENARIOS FOR 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. For a list of End to end test scenarios, including the new transactions types introduced with version 2 of the Data and Payment Standards, refer to the Conformance Testing Guides published by the ATO.

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
4.1	Send a MRR 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 MRR 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 MRR message
4.2	Send a MRR 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 MRR 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 MRR message
4.3	Send a MRR 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 MRR 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 MRR message
4.4	Send a MRR 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 MRR 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 MRR message



Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
4.5	Send a MRR 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
4.6	Send a MRR 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
4.7	Send a MRR 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
4.8	Send a MbrRegAndContTrxnRequest 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
4.9	Send a MbrRegAndContTrxnRequest Message with correct data (Multiple members	FullMsp – perform test in both directions. RecOnlyMsp –	As above plus the Sender application generates a MbrRegAndContTrxnRequest payload that is sent as an	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting	Receiver application should have received and processed a MbrRegAndContTrxnRequest message

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
	TFN provided)	perform test as MRR receiver only	AS4/ebMS3 message via the MSH to the receiver MSH which passes it onto the receiver application for processing	and validation code of each application layer (if applicable to that gateway)	
4.10	Send a MbrRegAndContTrxnRequest 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
4.11	Send a MbrRegAndContTrxnRequest 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
4.12	Send a CTR 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 CTR 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 CTR message
4.13	Send a CTR 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 CTR 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 CTR message

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
4.14	Send a CTR 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 CTR 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 CTR message
4.15	Send a CTR 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 CTR 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 CTR message
4.16	Send a CTER message for single member (if applicable to gateway) <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a CTER message	Both FullMsp and RecOnlyMsp should test sending of an CTR	As above plus the Receiver replies with a CTER 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 CTR message should receive appropriate CTER message
4.17	Repeat above test with mismatched payload for single member (if applicable to gateway) <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse	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 CTR back to the sender with an error explaining that the mismatch.

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
4.18	Send a CTER message for multiple members (if applicable to gateway) <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a CTER message	Both FullMsp and RecOnlyMsp should test sending of an CTR	As above plus the Receiver replies with a CTER 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 CTR message should receive appropriate CTER message
4.19	4.19 Repeat above test with mismatched payload for multiple members (if applicable to gateway) <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a ContributionTransactionResponse	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 CTR back to the sender with an error explaining that the mismatch.
4.20	Send a MROR message (if applicable to gateway) for single member <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a MROR message	Both FullMsp and RecOnlyMsp should test sending of an MRR	As above plus the Receiver replies with a MROR 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 MRR message should receive appropriate MROR message
4.21	Send a MROR 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 MROR 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 MRR message should receive appropriate MROR message
4.22	Repeat above two test with mismatched payload (if applicable to gateway)	FullMsp – perform test in both directions.	Exercise a negative scenario where payloadInfo part properties contain a target fund ABN/USI that is	Tests behaviour of application layer in regard to how it deals with mismatched payload and	Receiver should send an MRR back to the sender with an error explaining that the mismatch.

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
	<b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a MROR	RecOnly – perform test as MRR receiver only	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.	payloadInfo part properties data	
4.23	Send a MbrRegAndContTrxnResponse message (if applicable to gateway) with single member <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a MbrRegAndContTrxnResponse message	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 MRR message should receive appropriate MbrRegAndContTrxnResponse message
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 MRR message should receive appropriate MbrRegAndContTrxnResponse message
4.25	Repeat above test with mismatched payload (if applicable to gateway) <b>NOTE:</b> Applicable only if gateway has a connected fund (real or simulated) that can create a MbrRegAndContTrxnResponse	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 MbrRegAndContTrxnResponse back to the sender with
4.26	Send a single MRR message with missing mandatory value	FullMsp – perform test in both directions. RecOnlyMsp –	As above plus the Sender application generates a MRR payload that is sent as an AS4/ebMS3 message via the MSH	Tests the chain of communications links between sender and receiver application layers. Also tests the formatting	Receiver should send a single MROR back to the sender with an error explaining the error with code SUPER.GEN.GEN.4

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
		perform test as MRR receiver only	to the receiver MSH which passes it onto the receiver application for processing	and validation code of each application layer (if applicable to that gateway)	
4.27	Send a multiple MRR 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 MRR 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
4.28	Send a multiple MRR 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 MRR 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
4.29	Send a single member MbrRegAndContTrxnRequest 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
4.30	Send a multiple member MbrRegAndContTrxnRequest 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

Reference	Test	MSP <sup>1</sup>	Actions	Description	Expected Results
4.31	Send a single member CTR 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 CTR 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
4.32	Send a multiple member CTR 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 CTR 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

1 The MSP column indicates whether or not a particular test applies to a gateway based on its Message Service Provision level.

## APPENDIX 3 – ROLLOVER TRANSACTIONS TEST SCENARIOS

### 1. MANDATORY TEST SCENARIOS FOR TRANSPORT LAYER CONNECTIVITY (HTTPS)

Reference	Test	Actions	Description	Expected Results
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. MANDATORY TEST SCENARIOS FOR MESSAGE SERVICE HANDLER (MSH) LAYER CONNECTIVITY

Reference	Test	Actions	Description	Expected Results
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	<p>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</p> <p>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</p>	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
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

Reference	Test	Actions	Description	Expected Results
		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	Multiple payloads - non compressed	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.
2.6	Multiple payloads – compressed	As above but with compressed payloads.	Tests support for multiple signed, compressed payloads.	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
*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.				

### 3. MANDATORY TEST SCENARIOS FOR APPLICATION LAYER CONNECTIVITY

Reference	Test	Actions	Description	Expected Results
3.1	Send a RolloverTransactionRequest (RTR) message with correct data	As above plus the Sender application generates a RTR 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 RTR message
3.2	Send a RolloverTransactionOutcome Response (RTOR) message	As above plus the Receiver replies with a RTOR message which the Sender of the original message processes	Tests the generation, sending, receiving and processing of rollover transaction outcome response messages	Originators of RTR message should receive appropriate RTOR message
3.3	Repeat above tests with mismatched, incorrect data	Exercise a variety of negative scenarios where XBRL payload data does not matches 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
3.4	Send an Initiate Rollover Request (IRR) message with correct data	Sender application generates an IRR 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 IRR message
3.5	Send an Initiate Rollover Error Response (IRER) message with correct data	As above plus the Receiver replies with a IRER message which the Sender of the original message processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of initiate rollover request & outcome response messages	Originators of IRR message should receive appropriate IRER message

Reference	Test	Actions	Description	Expected Results
3.6	Send an Unclaimed Superannuation Money (USM) Rollover message with correct data from ATO to Fund	ATO generates a USM 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 ATO 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 USM message
3.7	Send an Unclaimed Superannuation Money Outcome Response (USMOR) message with correct data	As above plus the Receiver replies with a USMOR message which the ATO processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of USM and USMOR	ATO should receive and process appropriate USMOR message
3.8	Send an Electronic Portability Form (EPF) message with correct data	ATO generates a RTR 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 ATO 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 an EPF message
3.9	Send a Section 20C Notice	ATO generates a Section 20C Notice 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 ATO 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 Section 20C Notice message
3.10	Send a Section 20C Notice Error Response	As above for a negative scenario plus the Receiver replies with a Section 20C Notice Error Response which the ATO processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of Section 20C Notice and Section 20C Notice Error Response	ATO should receive and process appropriate Section 20C Notice Error Response message
3.11	Send an Unclaimed Superannuation Money (USM) Rollover message with correct data from fund to ATO	Sender application generates a USM payload that is sent as an AS4/ebMS3 message via the MSH to the ATO 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)	ATO should have received and processed a USM message
3.12	Send an Unclaimed Superannuation Money Outcome Response (USMOR) message with correct data from ATO to fund	As above plus the ATO replies with a USMOR message which the Receiver processes	Tests the generation, sending, receiving, routing, validation (if provided by the gateway) of USM and USMOR	Receiver application should receive and process appropriate USMOR message

**APPENDIX 4 – RISKS AND ISSUES**

Reference	Topic Area	Issue	Resolution