

GUIDE

EXTERNAL

FEBRUARY 2017

UNCLASSIFIED

FORMAT

AUDIENCE

DATE

CLASSIFICATION



Australian Government
Australian Taxation Office

SUPERSTREAM

Contributions Version 2.0 Conformance Testing Guide

A guide to contributions conformance testing
process for funds and solution providers

VERSION 1.0 Final



UNCLASSIFIED



For further information or
questions, email [Super
Stream Standards](#)

VERSION CONTROL

Version	Release date	Description of changes
V0.4	20.06.2016	Initial draft for internal review
V0.6	29.06.2016	Updated draft for internal review
V0.7	30.06.2016	Updated draft for SSTC review
V0.8	19.08.2016	Addition of content and optional test cases for B2B CTER messages to test response message parameters
V0.9	7/10/2016	Incorporated feedback from ASP Removed a few test cases with multiple government contribution types within one business document - ATO only includes one type of government contributions per message.
V1.0	20/02/2017	Correct table on p23 to correctly show message SUPER.GEN.CNTRBTN.7 as Information not Error. Create final version v1.0.

ENDORSEMENT

APPROVAL

Nicole Dykstra

Assistant Commissioner

APRA Fund Client Engagement and SuperStream Delivery

Superannuation

Australian Taxation Office

TABLE OF CONTENTS

TABLE OF CONTENTS	3
1 INTRODUCTION	4
1.1 PURPOSE.....	4
1.2 AUDIENCE.....	4
1.3 DOCUMENT CONTENT.....	4
1.4 DOCUMENT STRUCTURE.....	5
1.4.1 Section 2 - Conformance Testing.....	5
1.4.2 Section 3 – Message Level Conformance and Interoperability Checklist.....	5
1.4.3 Section 4 - G2B Contributions v2 Test Cases & Optional B2B Response Messages.....	5
1.4.4 Section 5 - Peer to Peer Test Cases.....	5
1.4.5 Section 6 - Versioning Considerations.....	6
1.5 OTHER RELATED DOCUMENTS.....	6
2 CONFORMANCE TESTING	7
2.1 GENERAL.....	7
2.2 SOLUTION TYPE OVERVIEW AND EXAMPLE.....	7
2.3 INTEGRATION TEST CASES.....	8
2.4 FUND VALIDATION SERVICE (FVS).....	8
3 MESSAGE LEVEL CONFORMANCE AND INTEROPERABILITY CHECKLISTS	9
3.1 GATEWAY INTEROPERABILITY TESTING CASE SUMMARY.....	9
3.2 PEER TO PEER TEST CASE SUMMARY.....	9
4 G2B CONTRIBUTIONS V2 TEST CASES & OPTIONAL B2B RESPONSE MESSAGES	11
4.1 PEER TO PEER AND PARTNER TESTING CHECKLIST.....	11
4.2 INTEGRATION TESTING CHECKLIST.....	12
4.3 MESSAGE STRUCTURE AND CONTENT TESTS.....	12
4.4 GATEWAY INTEROPERABILITY TEST CASES.....	13
4.5 PEER TO PEER TEST SCENARIO CATALOGUE.....	14
4.5.1 Peer to Peer Test Case Scenarios – G2B.....	14
4.5.1 Peer to Peer Test Case Scenarios – B2B.....	15
5 PEER TO PEER TEST CASES	16
5.1 SEND AND RECEIVE GCTR AND GCTER.....	16
5.1.1 GCTR test cases.....	16
5.1.2 GCTER test cases.....	17
5.2 SEND AND RECEIVE GCTAR AND GCTAOR.....	19
5.2.1 GCTAR test cases.....	19
5.2.2 GCTAOR test cases.....	20
5.3 SEND AND RECEIVE CTER.....	22
5.3.1 CTER test cases (Optional).....	22
6 VERSIONING CONSIDERATIONS	24
6.1 PRINCIPLES.....	24
6.2 GCTR AND GCTER.....	25
6.3 GCTAR AND GCTAOR.....	25
APPENDIX A – GATEWAY INTEROPERABILITY TEST DETAIL	26

1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide guidance for funds, software developers, employers and solution providers when undertaking conformance testing against version 2.0 of the SuperStream Contributions Standard. This version principally adds government contributions, introducing new functionality to contribution interactions to enable automated processing of amendments (G2B), and incorporating refund design and relevant guidance notes for G2B and B2B contributions.

From May 2017 the set of contributions transactions to be implemented, as required by the Standard, comprises:

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

This document supports the processes for certification of products and implementation of the Standard by publishing a test and conformance suite for G2B contributions, including a standard set of test cases, which will form the basis for gateway interoperability testing, 3rd party certification (if required) and peer to peer testing.

An optional subset of test scenarios will also be included for B2B contributions in particular CTER response messages.

1.2 AUDIENCE

The audience for this document is any employer, fund, software developer and solution provider that will be developing or extending their software to make it compliant with version 2 of the Superannuation Data and Payment Standard 2012 ([The 'Standard'](#)).

This document has been written for an audience expected to be familiar with the following:

- XBRL – www.xbrl.org
- ebMS3.0/AS4 - www.oasis-open.org/standards
- SuperStream program – www.ato.gov.au/datastandards
- SBR Program – www.sbr.gov.au

1.3 DOCUMENT CONTENT

The document provides sample test cases for execution by software developers part of a self-certification process up to and including peer to peer testing. This document contains a list of test cases to assist in validating the following:

- ebMS3.0/AS4 message conformance testing for SuperStream government to business exchange of data

- The application code complies with the business rules defined in the corresponding Message Implementation Guide (MIG) for the transaction.
- The application code generates an XBRL message instance that complies with the XBRL Definitional and Report Taxonomies and associated Schematron rules.
- The application code correctly processes a message received including exception handling.

1.4 DOCUMENT STRUCTURE

The detailed content of this document is divided in the following major sections and an overview of the content of each is provided below:

- Section 2 Conformance testing
- Section 3 Message Level Conformance and Interoperability Checklist
- Section 4 G2B Contributions V2 Test Cases & Optional B2B Response Messages
- Section 5 Peer to Peer Test Scenarios
- Section 6 Versioning Considerations

1.4.1 Section 2 - Conformance Testing

This section outlines some general principles of conformance testing and provides an example of the solution components involved in the messaging implementations that will be developed by funds, gateways and solution providers to support SuperStream government contributions messaging & government contribution amendment transactions.

The major entities and components are identified along with their role in the messaging process.

1.4.2 Section 3 – Message Level Conformance and Interoperability Checklist

This section provides a summary of the test cases and conformance criteria that will test the gateway interoperability within a government contribution transaction sequence. There will also be optional test cases for business contribution transaction for response messages.

1.4.3 Section 4 - G2B Contributions v2 Test Cases & Optional B2B Response Messages

This section gives an overview of contribution v2 testing requirements and lists the test cases that form the basic requirements for integration testing, gateway interoperability, 3rd party certification (if required) and peer to peer testing for government fund transactions and some optional testing requirements for business fund transactions.

1.4.4 Section 5 - Peer to Peer Test Cases

The tables in this section provide a catalogue of the government contributions messaging tests and then specify the detailed messaging steps involved in each of the peer-to-peer test

sequences listed for GCTR and GCTAR messages and for GCTER and GCTAOR. A separate optional table is provided for business contributions response messaging tests.

1.4.5 Section 6 - Versioning Considerations

This section outlines the versioning considerations for the introduction of government contributions and amendment messages.

1.5 OTHER RELATED DOCUMENTS

This document is to be used in conjunction with these related documents:

- Data and Payment Standards Contribution Message Implementation Guide (Schedule 4a v2.0) and supporting XBRL reporting taxonomy to implement each transaction that will be supported by the application (conttran.0002).
- Data and Payment Standards Terms and Definitions (*Schedule 2 v2.0*)
- Data and Payment Standards Payment Definitions (*Schedule 3 v2.0*)
- Data and Payment Standards Message Orchestration and Profiles (*Schedule 5 v2.0*)
- Data and Payment Standards Error Code Management (*Schedule 6 v2.0*)
- SuperTick User Guide v2.0
- Fund Validation Service (FVS) User Guide v 3.1
- Business Response Messaging Framework User Guide Final v1.1
- Contribution User Guide (Draft v2.0)

2 CONFORMANCE TESTING

The test conformance process encompasses the following key principles:

2.1 GENERAL

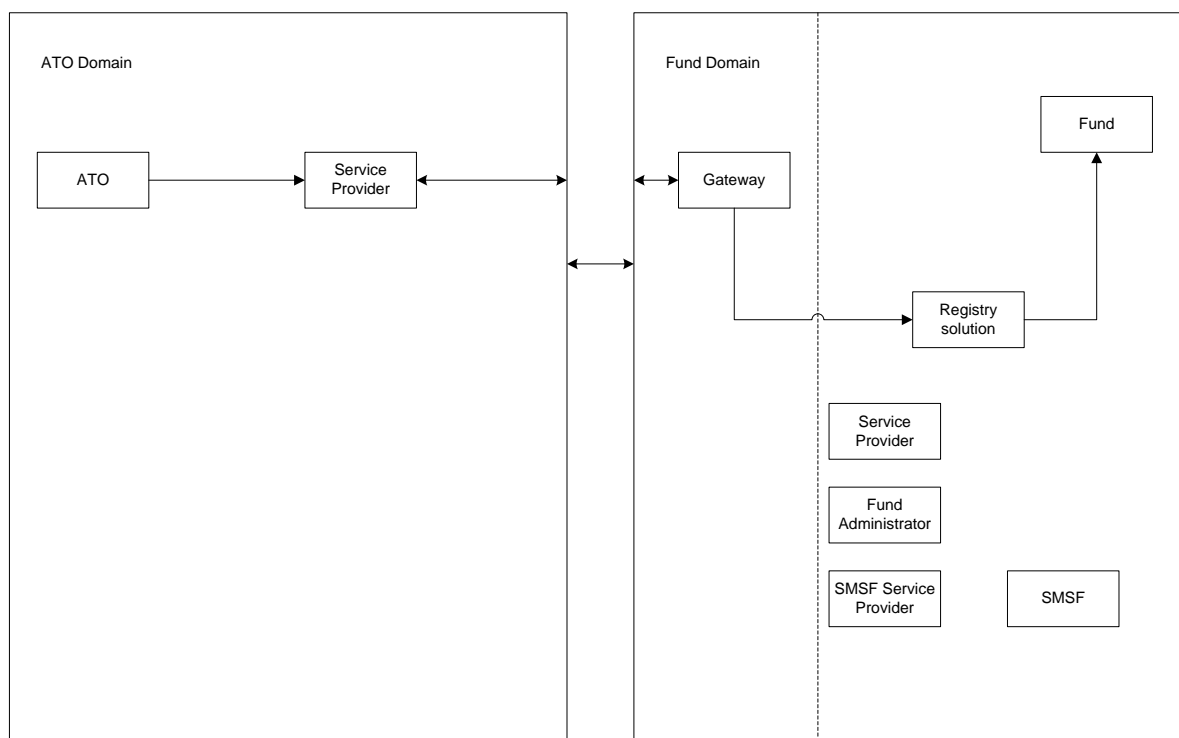
General principles are as follows:

- The scope of the test conformance suite includes integration testing, interoperability testing and peer to peer testing for government transactions and some optional testing for business response messages.
- The test scope for SuperStream encompasses government-to-business AS4 ebMS message exchange and payload (XBRL) testing for GCTR and GCTAR messages.
- The testing also makes reference to the ATO enabling services, which are as follows:
 - SuperTICK – a service for superannuation funds (and their intermediaries) when validating member TFN and identity details.
 - FVS – a suite of three services: FVSG, FVSL and FVSU.
- The test cases defined in this document will provide a generic set of steps to support these activities. It is the responsibility of the fund to capture data in their specific process.
- To streamline testing the following rules apply to registry system testing:
 - If multiple funds use a common registry system, a single pass through for a chosen fund would constitute a pass for all other funds associated with the registry system.
 - In a more complex environment, that contains multiple registry systems with various funds, at least one fund within each registry system should be tested as best practice.
 - One Unique Superannuation Identifier (USI) (product) for each fund is the minimum requirement for testing. Funds are not expected to test all products within their systems.

2.2 SOLUTION TYPE OVERVIEW AND EXAMPLE

The diagram below provides an example of an ATO solution scenario and a fund solution scenario and the interactions between the various entities involved in the passing of contributions transactions between the ATO and fund.

Example government contribution solution scenario



2.3 INTEGRATION TEST CASES

Integration test cases are the responsibility of each solution implementation team.

A checklist of integration test cases is provided in section 4 and represents the minimum requirement. The full extent of integration testing will need to be agreed between each fund and their solution provider/s.

2.4 FUND VALIDATION SERVICE (FVS)

The certification status field values recorded in the FVS will indicate a status for both Rollovers and Contributions, and a schedule version number for each.

The version number will only be updated after a major change to the Contributions schedule.

The field must contain a value, which may be NIL, or a combination of one rollover and/or one contribution value. Refer to the FVS User Guide for details of the Certification Detail values.

3 MESSAGE LEVEL CONFORMANCE AND INTEROPERABILITY CHECKLISTS

This section gives an overview of contributions testing and lists the test cases that form the basic requirement for Gateway Interoperability, 3rd party certification (if required) testing and pre-induction peer-to-peer testing.

The following must be tested for contributions messaging solutions.

3.1 GATEWAY INTEROPERABILITY TESTING CASE SUMMARY

This section lists the types of test cases for interoperability testing. The checklist below provides a summary of the functional requirements for test cases that will test the interoperability within a contribution transaction sequence. Interoperability test cases are listed in detail in section 4.4.

Gateway to/from ATO:

1. Transport Layer connectivity
2. Message Service Handler (MSH) Layer connectivity
3. Application Layer connectivity

3.2 PEER TO PEER TEST CASE SUMMARY

This section provides a summary of the Contribution peer-to-peer test case scenarios for ATO to fund testing.

1. Government to Fund (G2B) – ATO sending GCTR
 - 1.1. Contribution data extracted
 - 1.2. XBRL message construction
 - 1.3. ebMS message transmission
2. Government to Fund (G2B) - Fund receiving GCTR
 - 2.1. ebMS message receipt
 - 2.2. XBRL message deconstruction
 - 2.3. Government Contribution Transaction message processed and response generated if applicable
3. Government to Fund (G2B) Fund sending GCTER
 - 3.1. Error response generated
 - 3.2. XML message construction
 - 3.3. ebMS message transmission
4. Government to Fund (G2B) ATO receiving GCTER
 - 4.1. ebMS message receipt
 - 4.2. XML message deconstruction
 - 4.3. Error response message processed
5. Government to Fund (G2B) – ATO sending GCTAR
 - 5.1. Contribution data extracted
 - 5.2. XBRL message construction
 - 5.3. ebMS message transmission
6. Government to Fund (G2B) - Fund receiving GCTAR

- 6.1. ebMS message receipt
- 6.2. XBRL message deconstruction
- 6.3. Government Contribution Transaction Amendment message processed and outcome response generated (with refund if applicable)
7. Government to Fund (G2B) - Fund sending GCTAOR
 - 7.1. Outcome response generated
 - 7.2. XML message construction
 - 7.3. ebMS message transmission
8. Government to Fund (G2B) - ATO receiving GCTAOR
 - 8.1. ebMS message receipt
 - 8.2. XML message deconstruction
 - 8.3. GCTAOR processed
9. Business to Business (B2B) Fund sending CTER
 - 9.1. Error response generated
 - 9.2. XML message construction
 - 9.3. ebMS message transmission
10. Business to Business (B2B) Employer receiving CTER
 - 10.1. ebMS message receipt
 - 10.2. XML message deconstruction
 - 10.3. Error response message processed

4 G2B CONTRIBUTIONS V2 TEST CASES & OPTIONAL B2B RESPONSE MESSAGES

4.1 PEER TO PEER AND PARTNER TESTING CHECKLIST

G2B tests – peer to peer – send and receive the following:

1. Government Contribution Transaction Message (GCTR) – from ATO to Fund:
 - 1.1. Single member message with TFN
 - 1.2. Multiple member message with TFN
 - 1.3. Single member message with no TFN
 - 1.4. Multiple member message with no TFN
 - 1.5. Multiple member message with Record Count populated
 - 1.6. Message with Superannuation Guarantee Amount populated
 - 1.7. Message with SHASA CoContributions Amount populated
 - 1.8. Message with LISC Amount populated
 - 1.9. Message with SHASA Taxable Amount populated
 - 1.10. Message with SHASALISC Amount populated
 - 1.11. Message with CoContributions Amount populated
 - 1.12. Duplicate member message, single contribution type for different pay periods
 - 1.13. Multiple member message with 10,000 transactions (By agreement)
2. Government Contribution Transaction Error Response Message (GCTER) – from Fund to ATO:
 - 2.1. Single member level, error severity - member not found with supplied information
 - 2.2. Multiple member, partial severity - member not found with supplied information
 - 2.3. Multiple member, progressive severity – member not found with supplied information
 - 2.4. Document level, error severity, no refund - ABN not known to the message receiver
 - 2.5. Document level, error severity – Unable to reconcile payment
 - 2.6. Document level, error severity - Government contribution cannot be accepted
3. Government Contribution Transaction Amendment Request (GCTAR) – from ATO to Fund:
 - 3.1. Single member message with TFN
 - 3.2. Multiple member message with TFN
 - 3.3. Single member message with no TFN
 - 3.4. Multiple member message with no TFN
 - 3.5. Multiple member message with Record Count populated
 - 3.6. Message with Superannuation Guarantee Amount populated
 - 3.7. Message with LISC Amount populated
 - 3.8. Message with CoContributions Amount populated
 - 3.9. Duplicate member message, single contribution type for different pay periods
4. Government Contribution Transaction Amendment Outcome Response Message (GCTAOR) – from Fund to ATO
 - 4.1. Member level, Warning severity - Insufficient funds (partial refund)
 - 4.2. Member level, progressive severity, no refund - Recovery request cannot be processed

- 4.3. Member level, Information severity - Recovery request has been processed successfully
- 4.4. Multiple members, Warning Severity - multiple responses with a combination of SUPER.GEN.CONTRBTN.17 and SUPER.GEN.CONTRBTN.19.
- 4.5. Multiple member, partial severity – include test cases 4.1 – 4.3.
5. Optional test cases: Contribution Transaction Error Response Message (CTER) – from Fund to Employer:
 - 5.1. Single member level, error severity - member not found with supplied information
 - 5.2. Member level, progressive severity – no longer a member of Superannuation Entity
 - 5.3. Document level, error severity, no refund - ABN not known to the message receiver
 - 5.4. Document level, error severity refund - Payment is less than what has been specified with Contribution Transaction Request Message
 - 5.5. Employer level, partial severity refund - contribution cannot be accepted from this Contribution Provider
 - 5.6. Contribution type level, progressive severity refund - Eligibility issue preventing the contribution being processed. Contact Superannuation entity for details

4.2 INTEGRATION TESTING CHECKLIST

1. Government, Fund and Service Provider/s testing sending:
 - 1.1. FVS call
 - 1.2. Contribution data extraction
 - 1.3. XBRL message construction
 - 1.4. ebMS message transmission
2. Government, Fund and Service Provider/s testing receiving responses:
 - 2.1. ebMS message receipt
 - 2.2. XML response message deconstruction
 - 2.3. Error or outcome message processed

4.3 MESSAGE STRUCTURE AND CONTENT TESTS

1. Presence of fields
 - a. Mandatory fields present
 - b. Conditional and dependent fields present if required
2. Values
 - a. Values according to taxonomy
 - b. Cross field validations
 - c. Other business rules – ATO
 - d. Other business rules – fund
3. XBRL
 - a. Message correctly formed
 - b. Message internally consistent – context and data
4. XML (responses)
 - a. Message correctly formed
 - b. Message internally consistent – parameters and event items

5. ebMS

- a. Header and wrapper correct (including new service/actions)
- b. Transmission and receipt successful
- c. Response messages correctly packaged
- d. Response message transmission and receipt successful

4.4 GATEWAY INTEROPERABILITY TEST CASES

This section gives an overview of what is required to be tested as part of interoperability between gateways and government.

Refer to Appendix A for further detail of the tests listed below.

G2B – Gateway to/from ATO		
Test number	v2	Description –see note below
Transport and MSH layer testing		
INTERGC1.1	✓	Establish https connection between endpoints
INTERGC2.1	✓	Send a simplified message from the sender MSH to the receiver MSH. Reduced complexity: no compression, no signing, no encryption ² , single payload. Payload and PayloadInfo properties are ignored
INTERGC2.2	N	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
INTERGC2.3	N	Test message signing and signature validation
INTERGC2.4	N	Test message compression
INTERGC2.5	N	Multiple payloads - non compressed
INTERGC2.6	N	Multiple payloads – compressed
INTERGC2.7	✓	Test new Service/Actions

Note: These low-level G2B test cases provide a checklist of message structure requirements and do not need to be performed separately if not appropriate. A single well-formed, signed, compressed message as specified in tests INTERGC3.1 to INTERGC3.4 will automatically provide a test of these requirements.

G2B – Gateway to/from ATO		
Test number	v2	Description
Application layer testing		
INTERGC3.1	✓	Send a Government Contribution Transaction Request (GCTR) message with correct data
INTERGC3.2	✓	Send a Government Contribution Transaction Error Response (GCTER) message with correct data
INTERGC3.3	✓	Send a Government Contribution Transaction Amendment Request (GCTAR) with correct data
INTERGC3.4	✓	Send a Government Contribution Transaction Amendment Request Outcome Response (GCTAOR) with correct data
INTERGC3.5	✓	BIP4 - check routing is consistent with BIP4

N = new gateways only

4.5 PEER TO PEER TEST SCENARIO CATALOGUE

The following test case scenarios are the minimum test scenarios required for peer-to-peer testing. It is the responsibility of the trustee to ensure these tests are completed successfully for each solution, regardless of whether the fund or their service provider conducts the test.

4.5.1 Peer to Peer Test Case Scenarios – G2B

Each test requires checking of both sending and receiving solution correctness – refer to the Test Cases in section 5 for further detail.

Note 1: The response pattern used by the responding party may be any of Error, Partial or Progressive. The receiving party for a response must be able to process all response pattern types.

Note 2: Payment reconciliation cannot be tested in a testing environment as no actual payments are created.

Government Contribution Transaction Request Message (GCTR) – from ATO to Fund		
Test number	V2	Description
GCTR1.1	✓	Valid single member, single business document GCTR with TFN
GCTR1.2	✓	Valid multiple member, single business document GCTR with TFN
GCTR1.3	✓	Valid single member GCTR with no TFN, including Member ID
GCTR1.4	✓	Valid multiple members GCTR with no TFN, including Member ID
GCTR1.5	✓	Valid multiple member GCTR message with Record Count populated
GCTR1.6	✓	Valid GCTR message with Superannuation Guarantee Amount populated
GCTR1.7	✓	Valid GCTR message with SHASA CoContributions Amount populated
GCTR1.8	✓	Valid GCTR message with LISC Amount populated
GCTR1.9	✓	Valid GCTR message with SHASA Taxable Amount populated
GCTR1.10	✓	Valid GCTR message with SHASALISC Amount populated
GCTR1.11	✓	Valid GCTR message with CoContributions Amount populated
GCTR1.12	✓	Valid GCTR message with single contribution type (LISC or Co-contribution), duplicate members for different pay periods
GCTR1.13	By agreement	Valid single business document, multiple member GCTR with 10,000 transactions populated

Government Contribution Transaction Error Response Message (GCTER) – from Fund to ATO:		
Test number	V2	Description
GCTER2.1	✓	Single member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information (refund, member level, error severity)
GCTER2.2	✓	Multiple members, Single response, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, member level, partial severity)
GCTER2.3	✓	Multiple members, multiple responses, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, member level, progressive severity)
GCTER2.4	Mandatory for SMSF providers	Multiple members, single response SUPER.GEN.GEN.11 ABN not known to the message receiver. (No refund, document level, error severity)
GCTER2.5	✓	Multiple members, Single response, SUPER.GEN.GEN.12 Unable to reconcile payment (Refund, document level, error severity)
GCTER2.6	✓	Single document, Multiple members, SUPER.GEN.CNTRBTN.16 Government contribution cannot be accepted. (Refund, document level,

		error severity)
--	--	-----------------

Government Contribution Transaction Amendment Request (GCTAR) – from ATO to Fund		
Test number	V2	Description
GCTAR3.1	✓	Valid single member, single business document GCTAR with TFN
GCTAR3.2	✓	Valid multiple member, single business document GCTAR with TFN
GCTAR3.3	✓	Valid single member GCTAR with no TFN, including Member ID
GCTAR3.4	✓	Valid multiple member GCTAR with no TFN, including Member ID
GCTAR3.5	✓	Valid multiple member GCTAR message with Record Count populated
GCTAR3.6	✓	Valid GCTAR message with Superannuation Guarantee Amount populated
GCTAR3.7	✓	Valid GCTAR message with LISC Amount populated
GCTAR3.8	✓	Valid GCTAR message with CoContributions Amount populated
GCTAR3.9	✓	Valid GCTAR message with single contribution type (LISC or Co-contribution), duplicate members for different pay periods

Government Contribution Transaction Amendment Outcome Response Message (GCTAOR) – from Fund to ATO:		
Test number	V2	Description
GCTAOR4.1	✓	Single member, single response, SUPER.GEN.CONTRBTN.19 Insufficient funds (refund, member level, partial severity)
GCTAOR4.2	✓	Single response, SUPER.GEN.CONTRBTN.18 Recovery request cannot be processed (no refund, member level, progressive severity)
GCTAOR4.3	✓	Single response SUPER.GEN.CONTRBTN.17 Recovery request has been processed successfully. (refund, member level, Warning severity)
GCTAOR4.4	✓	Multiple members, multiple responses SUPER.GEN.CONTRBTN.17 and SUPER.GEN.CONTRBTN.19 combined. (Refund, member level, Warning for max. Severity).
GCTAOR4.5	✓	Multiple members, multiple responses (include GCTAOR 4.1 – 4.3) Max severity is partial.

4.5.1 Peer to Peer Test Case Scenarios – B2B

Contribution Transaction Error Response Message (CTER) – from Fund to Fund:		
Test number	V2	Description
CTER5.1	Optional	Single member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, error severity, member level)
CTER5.2	Optional	Multiple member, Single response, SUPER.GEN.GEN.22 No Longer a member of Superannuation entity. (refund, progressive severity, member level)
CTER5.3	Optional	Single or multiple members, Single response, SUPER.GEN.GEN.11 ABN not known to the message receiver. (no refund, error severity, document level)
CTER5.4	Optional	Multiple member, Single response, SUPER.GEN.CNTRBTN.6 Payment is less than what has been specified with Contribution Transaction Request Message. (refund, error severity, document level).
CTER5.5	Optional	Multiple members, Multiple employers, one employer cannot be accepted: SUPER.GEN.CNTRBTN.4 Contribution cannot be accepted from this Contribution Provider (refund, partial severity, employer level refund)
CTER5.6	Optional	Multiple members, one contribution type not accepted: SUPER.GEN.CNTRBTN.8 Eligibility issue preventing the contribution being processed. Contact Superannuation entity for details. (refund, progressive severity, contribution type level refund)

5 PEER TO PEER TEST CASES

The following tables provide an overview of the peer-to-peer testing sequences for GCTR, GCTER, GCTAR and GCTAOR messages.

5.1 SEND AND RECEIVE GCTR AND GCTER

5.1.1 GCTR test cases

GCTR1.1 Valid single member, single business document GCTR with TFN			
ATO		Fund	
GCTR1.1.ATO.01	ATO Send GCTR	GCTR1.1.FND.01	Fund Receive GCTR

GCTR1.2 Valid multiple member, single business document GCTR with TFN			
ATO		Fund	
GCTR1.2.ATO.01	ATO Send GCTR	GCTR1.2.FND.01	Fund Receive GCTR

GCTR1.3 Valid single member GCTR with no TFN, including Member ID			
ATO		Fund	
GCTR1.3.ATO.01	ATO Send GCTR	GCTR1.3.FND.01	Fund Receive GCTR

GCTR1.4 Valid multiple members GCTR with no TFN, including Member ID			
ATO		Fund	
GCTR1.4.ATO.01	ATO Send GCTR	GCTR1.4.FND.01	Fund Receive GCTR

GCTR1.5 Valid multiple member GCTR message with Record Count populated			
ATO		Fund	
GCTR1.5.ATO.01	ATO Send GCTR	GCTR1.5.FND.01	Fund Receive GCTR

GCTR1.6 Valid GCTR message with Superannuation Guarantee Amount populated			
ATO		Fund	
GCTR1.6.ATO.01	ATO Send GCTR	GCTR1.6.FND.01	Fund Receive GCTR

GCTR1.7 Valid GCTR message with SHASA CoContributions Amount populated			
ATO		Fund	
GCTR1.7.ATO.01	ATO Send GCTR		

	GCTR1.7.FND.01	Fund Receive GCTR
--	-----------------------	-------------------

GCTR1.8 Valid GCTR message with LISC Amount populated		
ATO		Fund
GCTR1.8.ATO.01	ATO Send GCTR	
		GCTR1.8.FND.01 Fund Receive GCTR

GCTR1.9 Valid GCTR message with SHASA Taxable Amount populated		
ATO		Fund
GCTR1.9.ATO.01	ATO Send GCTR	
		GCTR1.9.FND.01 Fund Receive GCTR

GCTR1.10 Valid member GCTR message with SHASALISC Amount populated		
ATO		Fund
GCTR1.10.ATO.01	ATO Send GCTR	
		GCTR1.10.FND.01 Fund Receive GCTR

GCTR1.11 Valid member GCTR message with CoContributions Amount populated		
ATO		Fund
GCTR1.11.ATO.01	ATO Send GCTR	
		GCTR1.11.FND.01 Fund Receive GCTR

GCTR1.12 Valid member GCTR message with Single contribution type (LISC or Co-contribution), duplicate members for different pay periods		
ATO		Fund
GCTR1.12.ATO.01	ATO Send GCTR	
		GCTR1.12.FND.01 Fund Receive GCTR

GCTR1.13 Valid single business document, multiple members GCTR with 10,000 transactions populated		
ATO		Fund
GCTR1.14.ATO.01	ATO Send GCTR	
		GCTR1.14.FND.01 Fund Receive GCTR

5.1.2 GCTER test cases

GCTER2.1 Single member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information (refund, member level, error severity)		
ATO		Fund
GCTER2.1.ATO.01	ATO Send GCTR	
		GCTER2.1.FND.01 Fund Receive GCTR
		GCTER2.1.FND.02 Fund Send GCTER
GCTER2.1.ATO.02	ATO Receive GCTER	

GCTER2.2 Multiple member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, member level, partial severity)		
ATO		Fund
GCTER2.2.ATO.01	ATO Send GCTR	

		GCTER2.2.FND.01	Fund Receive GCTR
		GCTER2.2.FND.02	Fund Send GCTR
GCTER2.2.ATO.02	ATO Receive GCTR		

GCTER2.3 Multiple members, multiple responses, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, member level, progressive severity)			
ATO		Fund	
GCTER2.3.ATO.01	ATO Send GCTR		
		GCTER2.3.FND.01	Fund Receive GCTR
		GCTER2.3.FND.02	Fund Send GCTR
GCTER2.6.ATO.02	ATO Receive GCTR		

GCTER2.4 Multiple members, single response SUPER.GEN.GEN.11 ABN not known to the message receiver. (No refund, document level, error severity)			
ATO		Fund	
GCTER2.4.ATO.01	ATO Send GCTR		
		GCTER2.4.FND.01	Fund Receive GCTR
		GCTER2.4.FND.02	Fund Send GCTR
GCTER2.4.ATO.02	ATO Receive GCTR		

GCTER2.5 Multiple members, Single response, SUPER.GEN.GEN.12 Unable to reconcile payment (Refund, document level, error severity)			
ATO		Fund	
GCTER2.5.ATO.01	ATO Send GCTR		
		GCTER2.5.FND.01	Fund Receive GCTR
		GCTER2.5.FND.02	Fund Send GCTR
GCTER2.5.ATO.02	ATO Receive GCTR		

GCTER2.6 Single document, Multiple members, SUPER.GEN.CNTRBTN.16 Government contribution cannot be accepted (Refund, document level, error severity)			
ATO		Fund	
GCTER2.6.ATO.01	ATO Send GCTR		
		GCTER2.6.FND.01	Fund Receive GCTR
		GCTER2.6.FND.02	Fund Send GCTR
GCTER2.6.ATO.02	ATO Receive GCTR		

5.2 SEND AND RECEIVE GCTAR AND GCTAOR

5.2.1 GCTAR test cases

GCTAR3.1 Valid single member, single business document GCTAR with TFN			
ATO		Fund	
GCTAR3.1.ATO.01	ATO Send GCTAR		
		GCTAR3.1.FND.01	Fund Receive GCTAR
		GCTAR3.1.FND.02	Fund Send GCTAOR
GCTAR3.1.ATO.02	ATO Receive GCTAOR		

GCTAR3.2 Valid multiple member, single business document GCTAR with TFN			
ATO		Fund	
GCTAR3.2.ATO.01	ATO Send GCTAR		
		GCTAR3.2.FND.01	Fund Receive GCTAR
		GCTAR3.2.FND.02	Fund Send GCTAOR
GCTAR3.2.ATO.02	ATO Receive GCTAOR		

GCTAR3.3 Valid single member GCTAR with no TFN, including Member ID			
ATO		Fund	
GCTAR3.3.ATO.01	ATO Send GCTAR		
		GCTAR3.3.FND.01	Fund Receive GCTAR
		GCTAR3.3.FND.02	Fund Send GCTAOR
GCTAR3.3.ATO.02	ATO Receive GCTAOR		

GCTAR3.4 Valid multiple member GCTAR with no TFN, including Member ID			
ATO		Fund	
GCTAR3.4.ATO.01	ATO Send GCTAR		
		GCTAR3.4.FND.01	Fund Receive GCTAR
		GCTAR3.4.FND.02	Fund Send GCTAOR
GCTAR3.4.ATO.02	ATO Receive GCTAOR		

GCTAR3.5 Valid multiple member GCTAR message with Record Count populated			
ATO		Fund	
GCTAR3.5.ATO.01	ATO Send GCTAR		
		GCTAR3.5.FND.01	Fund Receive GCTAR
		GCTAR3.5.FND.02	Fund Send GCTAOR
GCTAR3.5.ATO.02	ATO Receive GCTAOR		

GCTAR3.6 Valid GCTAR message with Superannuation Guarantee Amount populated			
ATO		Fund	
GCTAR3.6.ATO.01	ATO Send GCTAR		
		GCTAR3.6.FND.01	Fund Receive GCTAR
		GCTAR3.6.FND.02	Fund Send GCTAOR
GCTAR3.6.ATO.02	ATO Receive GCTAOR		

GCTAR3.7 Valid GCTAR message with LISC Amount populated			
ATO		Fund	
GCTAR3.7.ATO.01	ATO Send GCTAR		
		GCTAR3.7.FND.01	Fund Receive GCTAR
		GCTAR3.7.FND.02	Fund Send GCTAOR
GCTAR3.7.ATO.02	ATO Receive GCTAOR		

GCTAR3.8 Valid GCTAR message with CoContributions Amount populated			
ATO		Fund	
GCTAR3.8.ATO.01	ATO Send GCTAR		
		GCTAR3.8.FND.01	Fund Receive GCTAR
		GCTAR3.8.FND.02	Fund Send GCTAOR
GCTAR3.8.ATO.02	ATO Receive GCTAOR		

GCTAR3.9 Valid GCTAR message with single contribution type (LISC or Co-contribution), duplicate members for different pay periods			
ATO		Fund	
GCTAR3.9.ATO.01	ATO Send GCTAR		
		GCTAR3.9.FND.01	Fund Receive GCTAR
		GCTAR3.9.FND.02	Fund Send GCTAOR
GCTAR3.9.ATO.02	ATO Receive GCTAOR		

5.2.2 GCTAOR test cases

GCTAOR4.1 Single member, single response SUPER.GEN.CONTRBTN.19 Insufficient funds (refund, member level, partial severity)			
ATO		Fund	
GCTAOR4.2.ATO.01	ATO Send GCTAR		
		GCTAOR4.2.FND.01	Fund Receive GCTAR
		GCTAOR4.2.FND.02	Fund Send GCTAOR
GCTAOR4.2.ATO.02	ATO Receive GCTAOR		

GCTAOR4.2 Single response, SUPER.GEN.CONTRBTN.18 Recovery request cannot be processed (no refund, member level, progressive severity)			
ATO		Fund	
GCTAOR4.2.ATO.01	ATO Send GCTAR		
		GCTAOR4.2.FND.01	Fund Receive GCTAR
		GCTAOR4.2.FND.02	Fund Send GCTAOR
GCTAOR4.2.ATO.02	ATO Receive GCTAOR		

GCTAOR4.3 Single response SUPER.GEN.CONTRBTN.17 Recovery request has been processed successfully. (refund, member level, Warning severity)			
ATO		Fund	
GCTAOR4.3.ATO.01	ATO Send GCTAR		
		GCTAOR4.3.FND.01	Fund Receive GCTAR
		GCTAOR4.3.FND.02	Fund Send GCTAOR
GCTAOR4.3.ATO.02	ATO Receive GCTAOR		

GCTAOR4.4 Multiple members, multiple responses SUPER.GEN.CONTRBTN.17 (Recovery request has been processed successfully) and SUPER.GEN.CONTRBTN.19 (Warning, Insufficient funds in member account). (Refund at member level, max			

severity is Warning).			
ATO		Fund	
GCTAOR4.4.ATO.01	ATO Send GCTAR		
		GCTAOR4.4.FND.01	Fund Receive GCTAR
		GCTAOR4.4.FND.02	Fund Send GCTAOR
GCTAOR4.4.ATO.02	ATO Receive GCTAOR		

GCTAOR4.5 Multiple members, multiple responses (max severity is Partial). SUPER.GEN.CONTRBTN.18 (no refund, member level), SUPER.GEN.CONTRBTN.17 (refund, member level), and SUPER.GEN.CONTRBTN.19 (refund, member level)			
ATO		Fund	
GCTAOR4.5.ATO.01	ATO Send GCTAR		
		GCTAOR4.5.FND.01	Fund Receive GCTAR
		GCTAOR4.5.FND.02	Fund Send GCTAOR
GCTAOR4.5.ATO.02	ATO Receive GCTAOR		

5.3 SEND AND RECEIVE CTER

5.3.1 CTER test cases (Optional)

GCTER5.1 Single member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, error severity, member level)			
Employer		Fund	
CTER5.1.EMP.01	Employer Send CTR		
		CTER5.1.FND.01	Fund Receive CTR
		CTER5.1.FND.02	Fund Send CTR
CTER5.1.EMP.02	Employer Receive CTR		

GCTER5.2 Multiple member, Single response, SUPER.GEN.GEN.21 Member not found with supplied information. (refund, progressive severity, member level)			
Employer		Fund	
CTER5.2.EMP.01	Employer Send CTR		
		CTER5.2.FND.01	Fund Receive CTR
		CTER5.2.FND.02	Fund Send CTR
CTER5.2.EMP.02	Employer Receive CTR		

GCTER5.3 Single or multiple member, Single response, SUPER.GEN.GEN.11 ABN not known to the message receiver. (no refund, error severity, document level)			
Employer		Fund	
CTER5.3.EMP.01	Employer Send CTR		
		CTER5.3.FND.01	Fund Receive CTR
		CTER5.3.FND.02	Fund Send CTR
CTER5.3.EMP.02	Employer Receive CTR		

GCTER5.4 Multiple member, Single response, SUPER.GEN.CNTRBTN.6 Payment is less than what has been specified with Contribution Transaction Request Message. (refund, error severity, document level).			
Employer		Fund	
CTER5.4.EMP.01	Employer Send CTR		
		CTER5.4.FND.01	Fund Receive CTR
		CTER5.4.FND.02	Fund Send CTR
CTER5.4.EMP.02	Employer Receive CTR		

GCTER5.5 Multiple members, Multiple employers, one employer cannot be accepted: SUPER.GEN.CNTRBTN.4 Contribution cannot be accepted from this Contribution Provider (refund, partial severity, employer level refund)			
Employer		Fund	
CTER5.5.EMP.01	Employer Send CTR		
		CTER5.5.FND.01	Fund Receive CTR
		CTER5.5.FND.02	Fund Send CTR
CTER5.5.EMP.02	Employer Receive CTR		

GCTER5.6 Multiple members, one contribution type not accepted: SUPER.GEN.CNTRBTN.8 Eligibility issue preventing the contribution being processed. Contact Superannuation entity for details. (refund, progressive severity, contribution type level refund)			
Employer		Fund	

CTER5.6.EMP.01	Employer Send CTR		
		CTER5.6.FND.01	Fund Receive CTR
		CTER5.6.FND.02	Fund Send CTR
CTER5.6.EMP.02	Employer Receive CTR		

Receipt of the variations of response message severity (error, partial, information and progressive) should also be tested, as different response senders will use a variety of severity levels at different times.

Some common error messages have been used as examples in these test cases.

The table below lists relevant generic and contributions-specific error and warning messages for negative testing where possible.

Error Code	Severity	Short Description
SUPER.GEN.GEN.2	Error	Unique Superannuation Identifier {usi} not known to Superannuation entity {abn}.
SUPER.GEN.GEN.3	Error	Employer supplied Member ID used in Entity ID is not unique.
SUPER.GEN.GEN.5	Error	Data element contained an unexpected value.
SUPER.GEN.GEN.6	Error	Missing context declaration.
SUPER.GEN.GEN.11	Error	ABN {abn} not known to the Message Receiver
SUPER.GEN.GEN.12	Error	Payment Reference Number cannot be reconciled to a payment.
SUPER.GEN.GEN.14	Error	Unknown Customer Reference Number.
SUPER.GEN.GEN.21	Error	Member not found with supplied information
SUPER.GEN.CNTRBTN.4	Error	Contribution cannot be accepted from this Contribution Provider
SUPER.GEN.CNTRBTN.5	Error	Member TFN required for this Contribution.
SUPER.GEN.CNTRBTN.6	Error	Payment is less than what has been specified with Contribution Transaction Request
SUPER.GEN.CNTRBTN.7	Information	Payment is more than what has been specified with Contribution Transaction Request Message.
SUPER.GEN.CNTRBTN.8	Error	Eligibility issue preventing the contribution being processed. Contact Superannuation entity for details
SUPER.GEN.CNTRBTN.9	Warning	{messagetype} has been processed with warnings. Please review detailed description for further details.
SUPER.GEN.CNTRBTN.11	Warning	Contribution processed however incorrect USI provided. See detailed description for correct USI
SUPER.GEN.CNTRBTN.16	Error	Government contribution cannot be accepted.
SUPER.GEN.CNTRBTN.17	Information	Recovery request has been processed successfully.
SUPER.GEN.CNTRBTN.18	Error	Recovery request cannot be processed.
SUPER.GEN.CNTRBTN.19	Warning	Insufficient funds in member account.

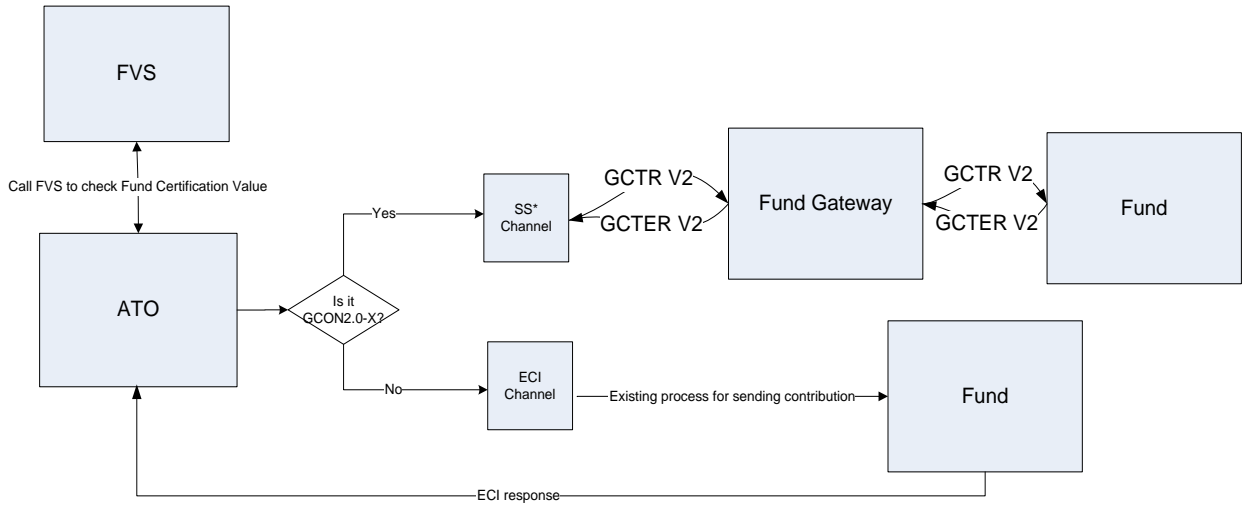
6 VERSIONING CONSIDERATIONS

This section outlines the versioning considerations for the introduction of government contributions and amendment messages. There are no versioning considerations for B2B given the Service Value is not changing from version 1.0 for the B2B transactions.

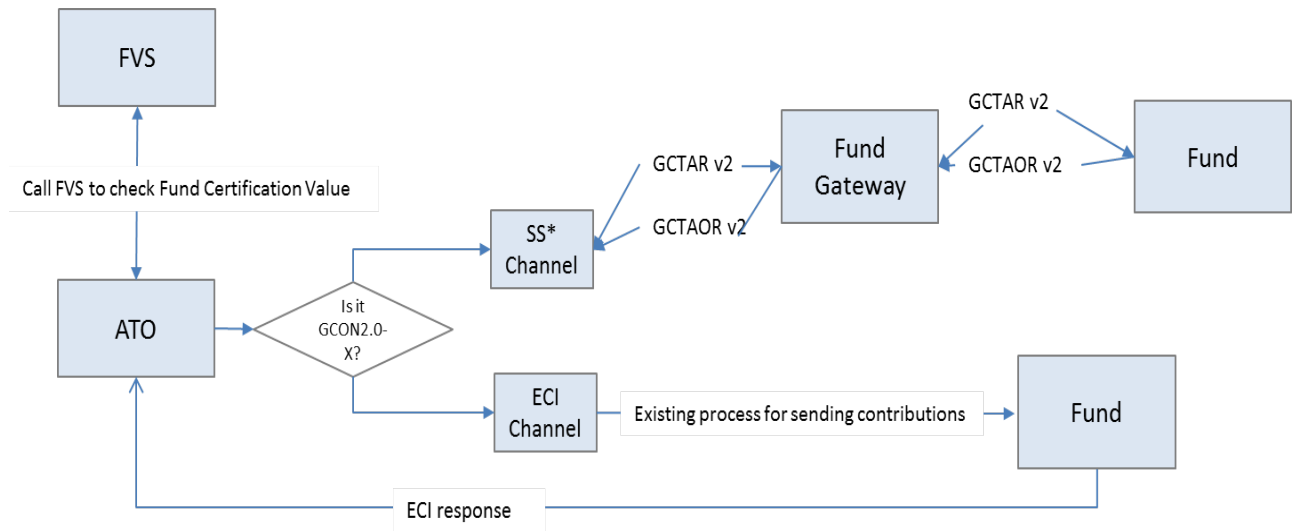
6.1 PRINCIPLES

1. The ATO is required to check the FVS prior to sending a contribution or amendment to ensure the USI receiving the contribution is ready to receive government messages via SuperStream.
2. The FVS certification value GCON2.0-X will indicate a USI's readiness. If Fund's Certification Value is GCON2.0-X, ATO sends the contribution or amendment via SuperStream; otherwise the existing ECI channel is used.
3. All government transactions are to be implemented at the same time (i.e. turning on GCTR/GCTER messages also turns on GCTAR/GCTAOR messages).
4. Any errors or response messages must be sent via the same channel they are received in.
5. The current ECI solution is based on ABN however if an ABN contains multiple USIs and only one changes to SuperStream, the remaining USIs would continue to receive transactions via the existing channel.
6. If a contribution is sent via the existing ECI channel and the fund subsequently moves to V2, any amendments would be sent via SuperStream in V2 because GCTR & GCTAR are not linked

6.2 GCTR AND GCTER



6.3 GCTAR AND GCTAOR



APPENDIX A – GATEWAY INTEROPERABILITY TEST DETAIL

Test number	v2	Test	Action	Description	Expected Results
G2B					
Transport and MSH layer testing					
INTERGC1.1	✓	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
INTERGC2.1	N	Send a simplified message from the sender MSH to the receiver MSH	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
INTERGC2.2	N	Send a simplified message from the sender MSH to the receiver MSH with PayloadInfo part properties configured for a particular source / target fund combination	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	Parties must communicate to each other the desired target ABN and target USI that they would like in the PayloadInfo 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	As above with manual verification that the target/source ABN/USI values in the PartInfo properties are as requested

Test number	v2	Test	Action	Description	Expected Results
			check as the MSH is not required to perform this type of validation of application layer entities	subsequent tests where they are required to match particular entities in application layer	
INTERGC2.3	N	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
INTERGC2.4	N	Test message compression	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
INTERGC2.5	N	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.
INTERGC2.6	N	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
INTERGC2.7	✓	Test new Service/Actions	As above with Service and Action part properties correctly configured.	Tests that the new service and actions are as expected.	As above with manual verification that the service and action values in the partinfo properties are correct

Test number	v2	Test	Action	Description	Expected Results
G2B					
Application layer testing					
INTERGC3.1	✓	Send a Government Contribution Transaction Request (GCTR) message with correct data	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
INTERGC3.2	✓	Send a Government Contribution Transaction Error Response (GCTER) message with correct data	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
INTERGC3.3	✓	Send a Government Contribution Transaction Amendment Request (GCTAR) with correct data	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	Receiver application should have received and processed a GCTAR message
INTERGC3.4	✓	Send a Government Contribution Transaction Amendment Request Outcome Response (GCTAOR) with correct data	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
INTERGC3.5	✓	BIP4 - check routing is consistent with BIP4	Check To and From values	Values are ABN of message sending and receiving parties	To and From values are correctly set