Print whole section

Superstream rollover V2 conformance testing guide

A guide to the rollover v2 conformance testing process for funds and solution providers.

Last updated 16 January 2018

Purpose

Information to provide testing guidance for digital service providers.

Audience and content

Information on developing software to make it compliant.

Conformance testing

The test conformance process encompasses the following key principles.

Message level conformance and interoperability checklists

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A guide to the rollover v2 conformance testing process for funds and solution providers.

QC 50524

Purpose

Information to provide testing guidance for digital service providers.

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The *SuperStream data and payment standards rollover message implementation guide* (MIG) v1.0 was published in July 2013. Version 2.0 (v2.0) of the specification, constituting a major release of the Standard, was published in December 2015.

The purpose of this document is to provide testing guidance for digital service providers when undertaking conformance testing against the SuperStream Rollover MIG version 2.0.

The testing timetable will mirror the functional release schedule for the areas of functionality defined in the Rollover MIG v2.0:

- Fund transactions
  - Initiate Rollover Request transactions (IRR)
  - Initiate Rollover Error Response transactions (IRER)
  - Rollover Transaction Request (RTR)
  - Rollover Request Outcome Response (RTOR)
  - Version testing (version 1 & version 2) can be done in parallel

- Government transactions
  - Unclaimed Superannuation Money (USM)
  - Unclaimed Superannuation Money Outcome Response (USMOR)
  - Electronic Portability Form (EPF)
  - Version testing of EPF version 1 & version 2
  - Section 20C Notice to be added in a later version
  - Section 20C Notice Error Response to be added in a later version

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Audience and content

Information on developing software to make it compliant.

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Audience

The audience for this document is any fund, digital service and solution providers that will be developing or extending their software to make it compliant with 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 – xbrl.org
- ebMS3.0/AS4 – oasis-open.org/standards
- SuperStream program – **ato.gov.au/datastandards**
- SBR Program – sbr.gov.au

Document content

The document provides sample test cases for execution by digital service providers as 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:

- AS4 ebMS message conformance and testing supporting Superstream business 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.
- Versioning scenario testing (v1 & v2).

Document structure

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

- Conformance testing

  - focuses on the different solution scenarios and the many components involved in the messaging implementations that will be developed by funds, gateways and solution providers to support SuperStream Rollover MIG v2
  - an overview of integration testing, interoperability and peer-to-peer testing for both fund and government transactions

- Message level conformance and interoperability testing – a summary of the test cases and conformance criteria that will test the interoperability within a rollover transaction sequence
- Rollover V2 test cases – an overview of rollover v2 testing requirements and lists the test cases that form the basic requirement for integration testing, gateway interoperability and peer-to-peer testing for both funds and government
- Peer-to-peer (P2P) test scenarios
  - Fund to Fund transactions (B2B) – the tables in this section provide a catalogue of the rollover v2 tests and then specify the detailed messaging steps involved in each of the peer-to-peer test sequences listed for IRR and RTR messages and for the corresponding IRER and RTOR response messages
  - Government to Fund transactions (G2B) – the tables in this section provide a catalogue of the rollover v2 tests and the steps involved in each of the peer to peer test sequences listed for USM and EPF.

Other related documents

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

- Data and Payment Standards Rollover Message Implementation Guide v2.0
- Supporting XBRL reporting taxonomy
- Data and Payment Standards Terms and Definitions (Draft Schedule 2)

- Data and Payment Standards Payment Definitions (Draft Schedule 3)
- Data and Payment Standards Message Orchestration and Profiles (Draft
- Schedule 5)
- Data and Payment Standards Error Code Management (Draft Schedule 6)
- SuperTICK User Guide v2.0
- Fund Validation Service (FVS) User Guide v 3.1
- Business Response Messaging Framework User Guide Final v1.1
- Rollover Transition Guide

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Conformance testing

The test conformance process encompasses the following key principles.

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General principles

The scope of the test conformance suite includes integration testing, interoperability testing and peer to peer testing for both business and government transactions.

The test scope for SuperStream encompasses business-to-business AS4 ebMS message exchange and payload (XBRL) testing and also government-to-business USM and EPF.

The testing also makes reference to the ATO enabling services, which are as follows:

- SuperTICK – SBR within the ATO own this service which is referenced as part of the data standard

- FVS – SBR within the ATO own this service which is referenced as part of the data standard.

B2B test use cases are initiated from fund registry systems, therefore processes will vary to capture the required set of data to support a rollover transaction. 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.

Integration test cases

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

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

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Message level conformance and interoperability checklists

Scenarios for the types of test cases for interoperability testing and rollover peer-to-peer scenarios.

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Interoperability test case summary

This section lists the types of test cases for interoperability testing. Interoperability test cases are listed in detail in Gateway interoperability test scenario catalogue and in Interoperability test case detail.

This checklist below provides a summary of the functional requirements for test cases that will test the interoperability within a rollover transaction sequence:

- Fund Gateway to Fund Gateway
  - Transport Layer connectivity
  - Message Service Handler (MSH) Layer connectivity
  - Application Layer connectivity – all gateways

- Fund Gateway to/from ATO
  - Transport Layer connectivity
  - Message Service Handler (MSH) Layer connectivity
  - Application Layer connectivity

Peer-to-peer test case summary

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

Fund to Fund scenarios

- Fund to Fund (B2B) sending IRR
  - XBRL message construction
  - ebMS message transmission

- Fund to Fund (B2B) receiving IRR
  - ebMS message receipt

  - XBRL message deconstruction
  - IRR processed and either RTR or IRER generated

- Fund to Fund (B2B) sending IRER
  - Error response generated
  - XML message construction
  - ebMS message transmission

- Fund to Fund (B2B) receiving IRER
  - ebMS message receipt
  - XML message deconstruction
  - Error response message processed

- Fund to Fund (B2B) sending RTR
  - XBRL message construction
  - ebMS message transmission

- Fund to Fund (B2B) receiving RTR
  - ebMS message receipt
  - XBRL message deconstruction
  - RTR processed to registry and outcome response generated

- Fund to Fund (B2B) sending RTOR
  - Outcome response generated
  - XML message construction
  - ebMS message transmission

- Fund to Fund (B2B) receiving RTOR
  - ebMS message receipt

  - XML message deconstruction
  - Error or outcome response processed

ATO to Fund scenarios

- Government to Fund (G2B) – ATO sending USM
  - XBRL message construction
  - ebMS message transmission

- Government to Fund (G2B) – Fund receiving USM
  - ebMS message receipt
  - XBRL message deconstruction
  - Unclaimed Superannuation Money processed and outcome generated

- Government to Fund (G2B) – Fund sending USMOR
  - Error response generated
  - XML message construction
  - ebMS message transmission

- Government to Fund (G2B) – ATO receiving USMOR
  - ebMS message receipt
  - XML message deconstruction
  - Error or outcome response processed

- Government to Fund (G2B) – ATO sending EPF
  - XBRL message construction
  - ebMS message transmission

- Government to Fund (G2B) – Fund receiving EPF
  - ebMS message receipt

- XBRL message deconstruction
- EPF processed

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Rollover version 2 test cases

An overview of rollover testing and lists the test cases.

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Testing overview

This section gives an overview of rollover testing and lists the test cases that form the basic requirement for integration, interoperability and peer-to-peer testing for both fund and government transactions.

B2B (fund to fund) test cases

B2B (Fund to Fund) peer to peer tests – send and receive the following:

Initiate Rollover Request (IRR)

- Single member IRR message successfully
- Multiple member IRR message successfully (optional to send, mandatory to test receiving)
- Valid message with Other Details tuples populated with agreed value
- Valid message with Record Count populated

Initiate Rollover Error Response (IRER)

- IRER Business error – member doesn't exist
- IRER message with Context ID included (optional to send, mandatory to receive)

Rollover Transaction Request (RTR)

- Valid single member rollover for processing (validate all figures based on rollover transaction)
- Multiple member RTR message successfully (optional to send, mandatory to test receiving)
- Valid member rollover with no TFN processed
- Valid member rollover with Other Details tuple populated
- Valid member rollover with Record Count populated

Rollover Transaction Outcome Response (RTOR)

- Rollover processed successfully
- Business error: member not found (member level refund)
- Business error: Roll over message but no money paid – document level response with no refund
- Business error resulting in document level refund
- RTOR with Context ID included (optional to send, mandatory to receive)

Version 1 & Version 2 scenarios

- Version scenario 1 – Both Fund A and Fund B are v1 and v2 compliant – all messages sent in v2
- Version scenario 1A – Incorrect Scenario – Both funds v2 compliant, but RTR sent in v1
- Version scenario 3 – Fund A v1 and Fund B v2 – fund A moves to v2 post sending IRR
- Version scenario 4 – Response message scenarios – linked messages for the following combinations result in messages being sent in v1
  - Fund A v1 and Fund B v1
  - Fund A v2 and Fund B v1
  - Fund A v1 and Fund B v2

G2B (ATO to fund) test cases

G2B (ATO to Fund) peer to peer tests – send and receive the following:

Unclaimed Superannuation Money (USM) –from ATO to Fund

- Valid single member USM rollover for processing
- Valid multiple member USM rollovers for processing
- Valid member USM rollover with no TFN processed
- Valid member USM rollover with Other Details tuple populated
- Valid member USM message with all fields populated that will be sent in a normal message
- Valid member USM message with only the minimum number of mandatory fields populated
- Valid member USM message with Record Count populated

7. Unclaimed Superannuation Money Outcome Response (USMOR) – from Fund to ATO

- USM rollover processed successfully
- Business error: member doesn't exist (member level refund)
- Business error: Roll over message but no money paid. OOB response
- Business error resulting in document level refund
- USMOR with Context ID included (mandatory to send and receive)

Electronic Portability Form (EPF) – from ATO to Fund

- Single member EPF message successfully
- EPF message with Other Details tuples populated with agreed value
- EPF message with Record Count populated
- ATO sends EPF v1 and Fund is v1
- ATO sends EPF v1 and Fund is v2 (INCORRECT)
- ATO sends EPF v2 and Fund is v2
- ATO sends EPF v2 and Fund is v1 (INCORRECT)

Integration test cases

This section gives an overview of test cases that should form the basis of application integration testing for funds.

Integration testing checklist

1. Fund and Service Provider/s testing sending messages

1.1. FVS call

1.2. SuperTICK call

1.3. XBRL message construction

1.4. ebMS message transmission

2. Fund and Service Provider/s testing receiving messages

2.1. ebMS message receipt

2.2. XBRL message deconstruction

2.3. Process rollover into registry system and generate response

3. Fund and Service Provider/s testing sending responses

3.1. Error or outcome messages generated

3.2. XML message construction

3.3. ebMS message transmission

4. Fund and Service Provider/s testing receiving responses

4.1. ebMS message receipt

4.2. XML response message deconstruction

4.3. Error or outcome message processed

5. Government and Service Provider/s testing sending:

5.1. FVS call

5.2. XBRL message construction

5.3. ebMS message transmission

6. Government and Service Provider/s testing receiving responses

6.1. ebMS message receipt

6.2. XML response message deconstruction

6.3. Error or outcome message processed

Message structure and content tests

- Presence of fields
  - Mandatory fields present
  - Conditional and dependent fields present if required

- Values
  - Values according to taxonomy
  - Cross field validations
  - Other business rules – fund

- XBRL
  - Message correctly formed
  - Message internally consistent – context and data

- XML (responses)
  - Message correctly formed
  - Message internally consistent – parameters and event items
  - Refund parameters match the Business Response Messaging Framework

- ebMS
  - Header and wrapper correct
  - Transmission and receipt successful
  - Response messages correctly packaged
  - Response message transmission and receipt successful

Test data

Sample message instances will be available separately to this document.

Gateway interoperability test scenario catalogue

This section gives an overview of tests required as part of interoperability testing between gateway to gateway and gateway to government.

Gateways can commence peer to peer testing prior to completing interoperability as long as they have completed interoperability with other gateway participants in the peer group. Prior to production it is required that all gateways have successfully completed testing with one another.

Refer to Interoperability test case detail for further detail of the tests listed below.

Table 1: B2B – Existing gateways

Test number	v1	v2	Description
INTERB1.1			Send a RTR message with correct data
INTERB1.2			Send a RTOR message (if applicable to gateway)
INTERB1.3	Optional	Optional	Repeat above test with mismatched payload (if applicable to gateway)
INTERB1.4			Send an IRR message with correct data
INTERB1.5			Send an IRER message with correct data
INTERB1.6*			Fund A v2 and Fund B v1 - incorrect versioning - IRR sent by fund A to fund B in v2. See Note 1 below.

Note 1: INTERB1.6: This test may not be able to be initiated by some gateways for interoperability testing because of the structure of their interaction with their funds. In those cases, the B2B fund to fund versioning test cases will cover this scenario.

Table 2: G2B – ATO to existing gateways

Test number	v1	v2	Description – Transport and MSH layer testing (See Note 2)
INTERG1.1			Establish https connection between endpoints Note: ATO has already established connectivity for EPF, however for USM, connection also needs to go the other way(because of USMOR) so tests are to be repeated
INTERG1.2			Send a simplified message from the sender MSH to the receiver MSH
INTERG1.3			Send a simplified message from the sender MSH to the receiver MSH with PayloadInfo part properties configured for a particular source / target fund combination
INTERG1.4			Test message signing and signature validation
INTERG1.5			Test message compression
INTERG1.6			Multiple payloads - non compressed
INTERG1.7			Multiple payloads – compressed

Note 2: 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 INTERG1.8, INTERG1.9 and INTERG1.10 will automatically provide a test of these requirements.

Table 3: G2B – ATO to existing gateways

Test number	v1	v2	Description Application layer testing
INTERG1.8			Send a USM Rollover message with correct data
INTERG1.9			Send a USM Rollover Outcome Response message with correct data
INTERG1.10			Send an Electronic Portability Form message with correct data
INTERG1.11			BIP4 - check routing is consistent with BIP4
INTERG1.12			ATO sends EPF v1 and Fund B is v1
INTERG1.13			ATO sends EPF v1 and Fund B is v2 (INCORRECT)
INTERG1.14			ATO sends EPF v2 and Fund B is v2
INTERG1.15			ATO sends EPF v2 and Fund B is v1 (INCORRECT)

Peer-to-peer test scenario catalogue

The following test case scenarios are the minimum test scenarios required for Peer to Peer testing:

- Peer to Peer Test Case Scenarios – B2B
- Peer to peer test case catalogue – G2B

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.

Peer to Peer Test Case Scenarios – B2B

Each test case should be performed by Funds taking on both a sending and a receiving role – that is, Fund A sending to Fund B, and then repeated with Fund B sending to Fund A.

Each test requires checking of both sending and receiving solution correctness – refer to the test cases in Peer to peer test cases 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.

Table 4: Initiate Rollover Request (IRR)

Test number	V1	V2	Description
IRR1.1			Valid single member IRR message
IRR1.2			Valid multiple member IRR message Note: it is optional to send a multiple member IRR but all funds must test that they can receive a multiple member IRR
IRR1.3			Valid IRR message with Other Details tuple populated with an agreed value between peers **Note: optional to send, mandatory to receive**
IRR1.4			Valid IRR message with Record Count populated

Table 5: Initiate Rollover Error Response (IRER)

Test number	V1	V2	Description

IRER2.1			IRER Business error – member doesn't exist SUPER.GEN.GEN.21 – Member not found with supplied information
IRER2.2			IRER message with Context ID included Note: optional to send, mandatory to receive

Table 6: Rollover Transaction Request (RTR)

Test number	V1	V2	Description
RTR3.1			Valid single member RTR message
RTR3.2			Valid multiple member RTR message successfully Note: optional to send, mandatory to receive
RTR3.3	Optional	Optional	Valid member rollover with no TFN processed (using Member ID)
RTR3.4			Valid member rollover with Other Details tuple populated Note: optional to send, mandatory to receive
RTR3.5			Valid member rollover with Record Count populated

Table 7: Rollover Transaction Outcome Response (RTOR)

Test	V1	V2	Description

number			
RTR3.1			Valid single member RTR message
RTR3.2			Valid multiple member RTR message successfully Note: optional to send, mandatory to receive
RTR3.3	Optional	Optional	Valid member rollover with no TFN processed (using Member ID)
RTR3.4			Valid member rollover with Other Details tuple populated Note: optional to send, mandatory to receive
RTR3.5			Valid member rollover with Record Count populated

Table 8: Versioning Scenarios

Test number	V1	V2	Description
VS5.1			Both Fund A and Fund B are v1 and v2 compliant – all messages sent in v2
VS5.2			Incorrect Scenario – Both funds v2 compliant, but RTR sent in v1
VS5.3			Fund A v1 and Fund B v2 - fund A moves to v2 post sending IRR
VS5.4			Response message scenarios – linked messages for the following combinations result in messages being sent in v1 • Fund A v1 and Fund B v1

			• Fund A v2 and Fund B v1 • Fund A v1 and Fund B v2

Peer to peer test case catalogue – G2B

Table 9: Unclaimed Superannuation Money (USM) – from ATO to Fund

Test number	V1	V2	Description
USM6.1			Valid single member USM rollover
USM6.2			Valid multiple member USM rollovers
USM6.3			Valid member USM rollover with no TFN, including Member ID
USM6.4			Valid member USM rollover with Other Details tuple populated
USM6.5			Valid member USM message with all fields populated that will be sent in a normal message
USM6.6			Valid member USM message with only the minimum number of mandatory fields populated
USM6.7			Valid member USM message with Record Count populated

Table 10: Unclaimed Superannuation Money Outcome Response (USMOR) – from Fund to ATO

Test number	V1	V2	Description

USMOR7.1			USM rollover response processed successfully
USMOR7.2			Business error: – Member level refund because member doesn't exist, SUPER.GEN.GEN.21 – Member not found with supplied information
USMOR7.3			USMOR with Context ID included **Note: mandatory to send and receive**

Table 11: Electronic Portability Form (EPF)

Test number	V1	V2	Description
EPF8.1			Valid Single member EPF message
EPF8.2			Valid EPF message with Other Details tuples populated with agreed value Note: optional to send, mandatory to receive
EPF8.3			Valid EPF message with Record Count populated
EPF8.4			ATO sends EPF v1 and Fund is v1
EPF8.5			ATO sends EPF v1 and Fund is v2 (INCORRECT)
EPF8.6			ATO sends EPF v2 and Fund is v2
EPF8.7			ATO sends EPF v2 and Fund is v1 (INCORRECT)

Peer-to-peer test cases

An overview of peer-to-peer test cases.

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Send and receive IRR and IRER

IRR test cases

Table 12: IRR1.1 Valid single member IRR message

Fund A		Fund B	
IRR1.1.FNDA.01	Fund A Send IRR		
		IRR1.1.FNDB.01	Fund B Receive IRR
		IRR1.1.FNDB.02	Fund B Send RTR
IRR1.1.FNDA.02	Fund A Receive RTR		
IRR1.1.FNDA.03	Fund A Send RTOR		
		IRR1.1.FNDB.03	Fund B Receive RTOR

Table 13: IRR1.2 Valid multiple member IRR message

Fund A		Fund B
IRR1.2.FNDA.01	Fund A Send IRR	

		IRR1.2.FNDB.01	Fund B Receive IRR
		IRR1.2.FNDB.02	Fund B Send RTR
IRR1.2.FNDA.02	Fund A Receive RTR		
IRR1.2.FNDA.03	Fund A Send RTOR		
		IRR1.2.FNDB.03	Fund B Receive RTOR

Note: it is optional to send a multiple member IRR but all funds must test that they can receive a multiple member IRR

Table 14: IRR1.3 Valid IRR message with Other Details tuple populated with an agreed value between peers

Fund A		**Fund B**	
IRR1.3.FNDA.01	Fund A Send IRR		
		IRR1.3.FNDB.01	Fund B Receive IRR
		IRR1.3.FNDB.02	Fund B Send RTR
IRR1.3.FNDA.02	Fund A Receive RTR		
IRR1.3.FNDA.03	Fund A Send RTOR		

		IRR1.3.FNDB.03	Fund B Receive RTOR

Note: optional to send, mandatory to receive

Table 15: IRR1.4 Valid IRR message with Record Count populated

Fund A		Fund B	
IRR1.4.FNDA.01	Fund A Send IRR		
		IRR1.4.FNDB.01	Fund B Receive IRR
		IRR1.4.FNDB.02	Fund B Send RTR
IRR1.4.FNDA.02	Fund A Receive RTR		
IRR1.4.FNDA.03	Fund A Send RTOR		
		IRR1.4.FNDB.03	Fund B Receive RTOR

IRER test cases

Table 16: IRER2.1 IRER Business error – member doesn't exist, SUPER.GEN.GEN.21 - Member not found with supplied information

Fund A	Fund B

IRER2.1.FNDA.01	Fund A Send IRR		
		IRER2.1.FNDB.01	Fund B Receive IRR
IRER2.1.FNDA.02	Fund A Receive IRER		

Table 17: IRER2.2 IRER message with Context ID included

Fund A		Fund B	
IRER2.2.FNDA.01	Fund A Send IRR		
		IRER2.2.FNDB.01	Fund B Receive IRR
IRER2.2.FNDA.02	Fund A Receive IRER		

Note: optional to send, mandatory to receive

Send and receive RTR and RTOR

RTR test cases

Table 18: RTR3.1 Valid single member RTR message

Fund A		Fund B	
RTR3.1.FNDA.01	Fund A Send RTR		
		RTR3.1.FNDB.01	Fund B Receive RTR

		RTR3.1.FNDB.02	Fund B Receive RTOR
RTR3.1.FNDA.02	Fund A Receive RTOR		

Table 19: RTR3.2 Valid multiple member RTR message successfully

Fund A		Fund B	
RTR3.2.FNDA.01	Fund A Send RTR		
		RTR3.2.FNDB.01	Fund B Receive RTR
		RTR3.2.FNDB.02	Fund B Receive RTOR
RTR3.2.FNDA.02	Fund A Receive RTOR		

Note: optional to send, mandatory to receive

Table 20: RTR3.3 Valid member rollover with no TFN processed (using Member ID)

Fund A		Fund B	
RTR3.3.FNDA.01	Fund A Send RTR		
		RTR3.3.FNDB.01	Fund B Receive RTR

		RTR3.3.FNDB.02	Fund B Receive RTOR
RTR3.3.FNDA.02	Fund A Receive RTOR		

Table 21: RTR3.4 Valid member rollover transaction, Other Details tuples provided

Fund A		Fund B	
RTR3.4.FNDA.01	Fund A Send RTR		
		RTR3.4.FNDB.01	Fund B Receive RTR
		RTR3.4.FNDB.02	Fund B Receive RTOR
RTR3.4.FNDA.02	Fund A Receive RTOR		

Note: optional to send, mandatory to receive

Table 22: RTR3.5 Valid member rollover transaction, Record count populated

Fund A		Fund B	
RTR3.5.FNDA.01	Fund A Send RTR		
		RTR3.5.FNDB.01	Fund B Receive RTR

		RTR3.5.FNDB.02	Fund B Receive RTOR
RTR3.5.FNDA.02	Fund A Receive RTOR		

RTOR test cases

Table 23: RTOR4.1 Rollover processed successfully

Fund A		Fund B	
RTOR4.1.FNDA.01	Fund A Send RTR		
		RTOR4.1.FNDB.01	Fund B Receive RTR
		RTOR4.1.FNDB.02	Fund B Receive RTOR
RTOR4.1.FNDA.02	Fund A Receive RTOR		

Table 24: RTOR4.2 Business error: - Member level refund because member doesn’t exist, SUPER.GEN.GEN.21 - Member not found with supplied information

Fund A		Fund B	
RTOR4.2.FNDA.01	Fund A Send RTR		
		RTOR4.2.FNDB.01	Fund B Receive

			RTR
		RTOR4.2.FNDB.02	Fund B Receive RTOR
RTOR4.2.FNDA.02	Fund A Receive RTOR		

Table 25: RTOR4.3 RTOR with Context ID included

Fund A		Fund B	
RTOR4.3.FNDA.01	Fund A Send RTR		
		RTOR4.3.FNDB.01	Fund B Receive RTR
		RTOR4.3.FNDB.02	Fund B Receive RTOR
RTOR4.3.FNDA.02	Fund A Receive RTOR		

Note: optional to send, mandatory to receive

Version 1 & version 2 test cases

Refer to Versioning scenarios for versioning scenario diagrams.

Table 26: RTOR4.1 Rollover processed successfully

Fund A		Fund B
RTOR4.1.FNDA.01	Fund A Receive RTR	

		RTOR4.1.FNDB.01	Fund B Send RTR
		RTOR4.1.FNDB.02	Fund B Send RTOR
RTOR4.1.FNDA.02	Fund A Receive RTOR		

Table 27: RTOR4.2 Business error: - Member level refund because member doesn’t exist, SUPER.GEN.GEN.21 - Member not found with supplied information

Fund A		Fund B	
RTOR4.2.FNDA.01	Fund A Receive RTR		
		RTOR4.2.FNDB.01	Fund B Send RTR
		RTOR4.2.FNDB.02	Fund B Send RTOR
RTOR4.2.FNDA.02	Fund A Receive RTOR		

Table 28: RTOR4.3 RTOR with Context ID included

Fund A		Fund B
RTOR4.3.FNDA.01	Fund A Receive RTR	

		RTOR4.3.FNDB.01	Fund B Send RTR
		RTOR4.3.FNDB.02	Fund B Send RTOR
RTOR4.3.FNDA.02	Fund A Receive RTOR		

Note: optional to send, mandatory to receive

Send and receive USM and USMOR messages

USM test cases

Table 29: USM6.1 Valid single member USM rollover

ATO		Fund A	
USM6.1.ATO.01	ATO Send USM		
		USM6.1.FNDA.01	Fund A receive USM
		USM6.1.FNDA.02	Fund A Send USMOR
USM6.1.ATO.02	ATO Receive USMOR		

Table 30: USM6.2 Valid multiple member USM rollovers

ATO		Fund A	
USM6.2.ATO.01	ATO Send USM		
		USM6.2.FNDA.01	Fund A receive USM
		USM6.2.FNDA.02	Fund A Send USMOR
USM6.2.ATO.02	ATO Receive USMOR		

Table 31: USM6.3 Valid member USM rollover with no TFN, including Member ID

ATO		Fund A	
USM6.3.ATO.01	ATO Send USM		
		USM6.3.FNDA.01	Fund A receive USM
		USM6.3.FNDA.02	Fund A Send USMOR
USM6.3.ATO.02	ATO Receive USMOR		

Table 32: USM6.4 Valid member USM rollover with Other Details tuple populated

ATO		Fund A	
USM6.4.ATO.01	ATO Send USM		
		USM6.1.FNDA.01	Fund A receive USM
		USM6.1.FNDA.02	Fund A Send USMOR
USM6.1.ATO.02	ATO Receive USMOR		

Table 33: USM6.5 Valid member USM message with all fields populated that will be sent in a normal message

ATO		Fund A	
USM6.5.ATO.01	ATO Send USM		
		USM6.5.FNDA.01	Fund A receive USM
		USM6.5.FNDA.02	Fund A Send USMOR
USM6.5.ATO.02	ATO Receive USMOR		

Table 34: USM6.6 Valid member USM message with only the minimum number of mandatory fields populated

ATO	Fund A

USM6.6.ATO.01	ATO Send USM		
		USM6.6.FNDA.01	Fund A receive USM
		USM6.6.FNDA.02	Fund A Send USMOR
USM6.6.ATO.02	ATO Receive USMOR		

Table 35: USM6.7 Valid member USM message with Record Count populated

ATO		Fund A	
USM6.7.ATO.01	ATO Send USM		
		USM6.7.FNDA.01	Fund A receive USM
		USM6.7.FNDA.02	Fund A Send USMOR
USM6.7.ATO.02	ATO Receive USMOR		

USMOR test cases

Table 36: USMOR7.1 USM rollover processed successfully

ATO	Fund A

USMOR7.1.ATO.01	ATO Send USM		
		USMOR7.1.FNDA.01	USMOR7.1.FN Fund A Recei USM
		USMOR7.1.FNDA.02	Fund A Send USMOR

Table 37: USMOR7.2 Business error: - Member level refund because member doesn't exist, SUPER.GEN.GEN.21 - Mem found with supplied information

ATO		Fund A	
USMOR7.2.ATO.01	ATO Send USM		
		USMOR7.2.FNDA.01	USMOR7.1.F Fund A Rec USM
		USMOR7.2.FNDA.02	Fund A Sen USMOR

Table 38: USMOR7.3 USMOR with Context ID included

ATO		Fund A	
USMOR7.1.ATO.01	ATO Send USM		
		USMOR7.1.FNDA.01	USMOR7.1.FN Fund A Recei USM
		USMOR7.1.FNDA.02	Fund A Send USMOR

Note: mandatory to send and receive

Send and receive EPF

EPF test cases

Table 39: EPF8.1 Valid Single member EPF message

ATO		Fund A	
EPF8.1.ATO.01	ATO Send EPF		
		EPF8.1.FNDA.01	Fund A Receive EPF

Table 40: EPF.8.2 Valid EPF message with Other Details tuples populated with agreed value (OPTIONAL)

ATO		Fund A	
EPF8.2.ATO.01	ATO Send EPF		
		EPF8.2.FNDA.01	Fund A Receive EPF

Table 41: EPF 8.3 Valid EPF message with Record Count populated

ATO		Fund A	
EPF8.3.ATO.01	ATO Send EPF		
		EPF8.3.FNDA.01	Fund A Receive EPF

Table 42 EPF 8.4 ATO sends EPF v1 and Fund is v1

ATO		Fund A	
EPF8.4.ATO.01	ATO Send EPF		
		EPF8.4.FNDA.01	Fund A Receive EPF

Table 43: EPF 8.5 ATO sends EPF v1 and Fund is v2 (INCORRECT)

ATO		Fund A	
EPF8.5.ATO.01	ATO Send EPF		
		EPF8.5.FNDA.01	Fund A Receive EPF

Table 44: EPF 8.6 ATO sends EPF v2 and Fund is v2

ATO		Fund A	
EPF8.6.ATO.01	ATO Send EPF		
		EPF8.6.FNDA.01	Fund A Receive EPF

Table 45: EPF 8.7 ATO sends EPF v2 and Fund is v1 (INCORRECT)

ATO		Fund A
EPF8.6.ATO.01	ATO Send	

	EPF		
		EPF8.6.FNDA.01	Fund A Receive EPF

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Interoperability test case detail

An overview of Interoperability test case detail.

Last updated 16 January 2018

Table 46: Tests and expected resuts

Test number	v1	v2	Test	Action
			B2B – Existing gateways	
INTERB1.1			Send a RTR message with correct data	Sender a generate payload as an AS message MSH to t MSH wh it onto th applicati processi
INTERB1.2			Send a RTOR message (if applicable to gateway)	As above Receiver with a RT message Sender c original r processe
INTERB1.3	Optional	Optional	Repeat above test	Exercise scenario

			with mismatched payload (if applicable to gateway)	payloadI properti target fu that is se the dest gateway the XBRI data doe the targe ABN/USI the Payl properti
INTERB1.4			Send an IRR message with correct data	Sender a generate payload as an AS message MSH to t MSH wh it onto th applicati processi
INTERB1.5			Send an IRER message with correct data	As above Receiver with a IR message Sender c original r processe
INTERB1.6			Fund A v2 and Fund B v1 - incorrect versioning - IRR sent by fund A to fund B in v2	Sender a generate v2, howe receiving on v1 so solution rejects a send the
			B2B – Existing gateways	
INTERG1.1			Establish https connection between endpoints	Use teln curl etc., establish appropri are oper

			Note: ATO has already established connectivity for EPF, however for USM, connection also needs to go the other way (because of USMOR) so tests are to be repeated	be used file conta ebMS3 r and shou the signa reply
INTERG1.2			Send a simplified message from the sender MSH to the receiver MSH	Sender M uncompr unsigned payload with arbi payload using Usernam authenti Receivin should re message errors. S reviews message Receiver received ignoring
INTERG1.3			Send a simplified message from the sender MSH to the receiver MSH with PayloadInfo part	As above receiver the rece message PayloadI properti configur target fu their app knows a

			properties configured for a particular source / target fund combination	just a ma as the M required this type validatio applicati entities
INTERG1.4			Test message signing and signature validation	As above configur sign mes targeted partner y testing w validate signatur message from tha
				As above configur incorrec for outg message message confirm receiver with a S
INTERG1.5			Test message compression	As above message compres on
INTERG1.6			Multiple payloads - non compressed	As above compres with mor payload.

INTERG1.7			Multiple payloads – compressed	As above compres payloads
INTERG1.8			Send a USM Rollover message with correct data	ATO gen USM pay sent as a AS4/ebM message MSH to t MSH wh it onto th applicati processi
INTERG1.9			Send a USM Rollover Outcome Response message with correct data	As above Receiver with a U message ATO proc
INTERG1.10			Send an Electronic Portability Form	ATO gen RTR pay sent as a AS4/ebM

			message with correct data	message MSH to t MSH wh it onto th applicati processi
INTERG1.11			BIP4 - check routing is consistent with BIP4	Check T values
INTERG1.12			ATO sends EPF v1 and Fund B is v1	Check g correctly message to sende receiver
INTERG1.13			ATO sends EPF v1 and Fund B is v2 (INCORRECT)	Check g correctly message to sende receiver
INTERG1.14			ATO sends EPF v2 and Fund B is v2	Check g correctly message to sende receiver
INTERG1.15			ATO sends EPF v2 and Fund B is v1 (INCORRECT)	Check g correctly message to sende receiver

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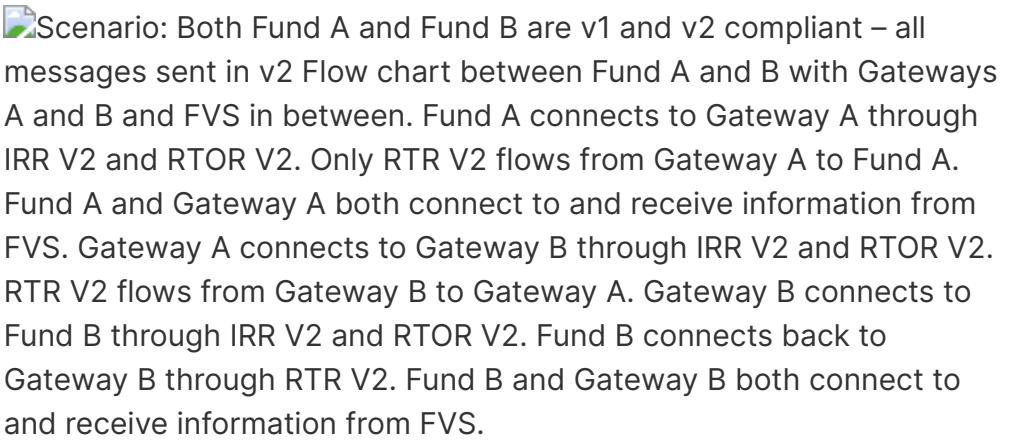
Versioning scenarios

An overview of versioning scenarios.

Last updated 16 January 2018

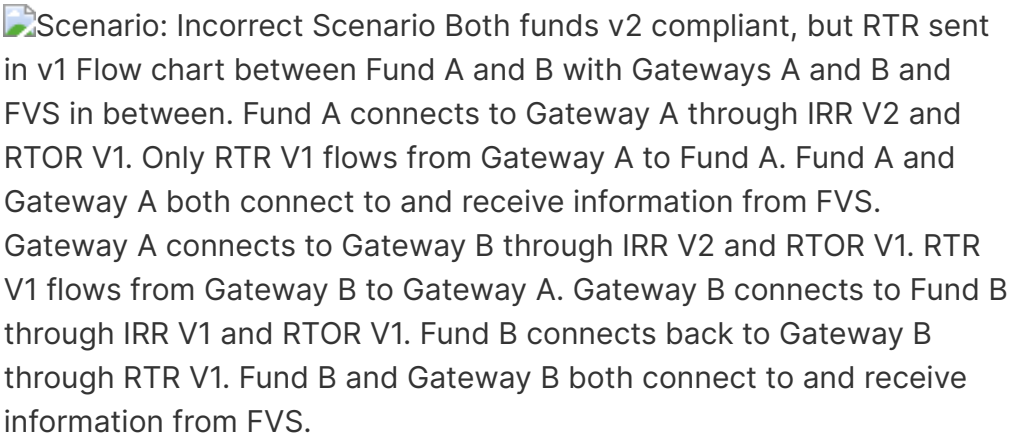
VS5.1 Both Fund A and Fund B are v1 and v2 compliant – all messages sent in v2


Scenario: Both Fund A and Fund B are v1 and v2 compliant – all messages sent in v2 Flow chart between Fund A and B with Gateways A and B and FVS in between. Fund A connects to Gateway A through IRR V2 and RTOR V2. Only RTR V2 flows from Gateway A to Fund A. Fund A and Gateway A both connect to and receive information from FVS. Gateway A connects to Gateway B through IRR V2 and RTOR V2. RTR V2 flows from Gateway B to Gateway A. Gateway B connects to Fund B through IRR V2 and RTOR V2. Fund B connects back to Gateway B through RTR V2. Fund B and Gateway B both connect to and receive information from FVS.

Notes:

- FVS will be called either by the Funds or the Gateways, depending on the agreement between the Fund and Gateway. The obligation is on the sending solution to send in the correct version.
- Fund B would use the FVS to determine which version to send the RTR in, because IRR and RTR are not linked
- Fund A would use the Service Value in the RTR to determine what value to send the RTOR in.

VS5.2 – Incorrect Scenario Both funds v2 compliant, but RTR sent in v1

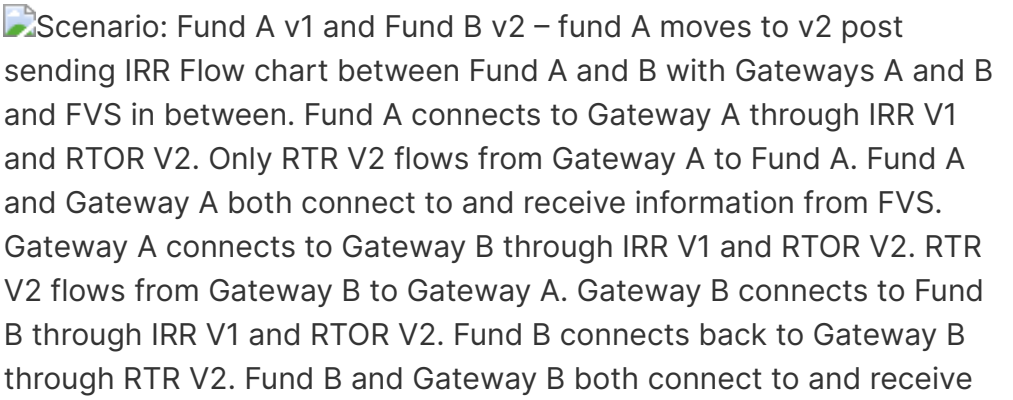

Scenario: Incorrect Scenario Both funds v2 compliant, but RTR sent in v1 Flow chart between Fund A and B with Gateways A and B and FVS in between. Fund A connects to Gateway A through IRR V2 and RTOR V1. Only RTR V1 flows from Gateway A to Fund A. Fund A and Gateway A both connect to and receive information from FVS. Gateway A connects to Gateway B through IRR V2 and RTOR V1. RTR V1 flows from Gateway B to Gateway A. Gateway B connects to Fund B through IRR V1 and RTOR V1. Fund B connects back to Gateway B through RTR V1. Fund B and Gateway B both connect to and receive information from FVS.

Notes:

- RTR should have been sent in v2 because it is the highest/latest version that is available to both the sender and receiver.

- Trustee decision to accept or reject (If it is sent in v1 in error, trustee would most likely process providing it is before v1 is closed out). Any error handling to be done out of band – no new error or warning message will be created.
- The RTOR is sent in v1 because Fund A would use the Service Value in the RTR to determine what version to send the RTOR in.

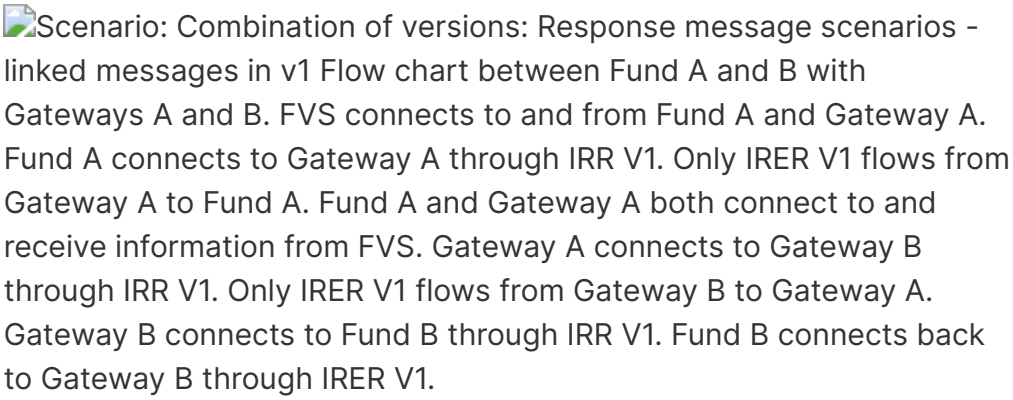
VS5.3 Fund A v1 and Fund B v2 – fund A moves to v2 post sending IRR


Scenario: Fund A v1 and Fund B v2 – fund A moves to v2 post sending IRR Flow chart between Fund A and B with Gateways A and B and FVS in between. Fund A connects to Gateway A through IRR V1 and RTOR V2. Only RTR V2 flows from Gateway A to Fund A. Fund A and Gateway A both connect to and receive information from FVS. Gateway A connects to Gateway B through IRR V1 and RTOR V2. RTR V2 flows from Gateway B to Gateway A. Gateway B connects to Fund B through IRR V1 and RTOR V2. Fund B connects back to Gateway B through RTR V2. Fund B and Gateway B both connect to and receive information from FVS.

Notes:

- RTR is sent in V2 because it is sent in the highest version that both Fund A and Fund B can accept.
- RTR does not need to be in the same version as the IRR because the transactions are not linked.
- Fund B would use the FVS to determine the version the RTR is sent in
- Fund A would use the Service Action to determine the version the RTOR is sent in.

VS5.4 Combination of versions: Response message scenarios – linked messages in v1


Scenario: Combination of versions: Response message scenarios - linked messages in v1 Flow chart between Fund A and B with Gateways A and B. FVS connects to and from Fund A and Gateway A. Fund A connects to Gateway A through IRR V1. Only IRER V1 flows from Gateway A to Fund A. Fund A and Gateway A both connect to and receive information from FVS. Gateway A connects to Gateway B through IRR V1. Only IRER V1 flows from Gateway B to Gateway A. Gateway B connects to Fund B through IRR V1. Fund B connects back to Gateway B through IRER V1.

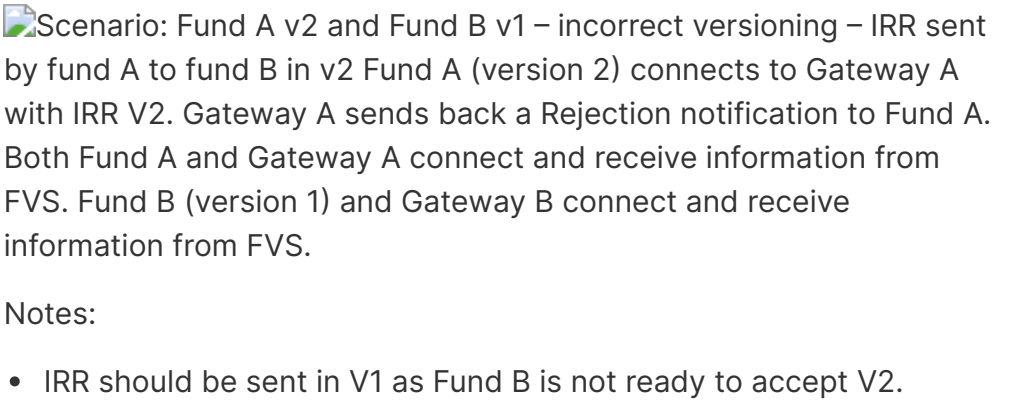
All the combinations below would result in the same mapping:

- Fund A V1 & Fund B V1
- Fund A V2 and Fund B V1
- Fund A V1 & Fund B V2

Notes:

- Fund A would use the FVS to determine which version to send the IRR
- Fund B would use the Service Value in both cases to determine the version the IRER/RTOR is sent in

INTERB1.6 – Fund A v2 and Fund B v1 – incorrect versioning – IRR sent by fund A to fund B in v2


Scenario: Fund A v2 and Fund B v1 – incorrect versioning – IRR sent by fund A to fund B in v2 Fund A (version 2) connects to Gateway A with IRR V2. Gateway A sends back a Rejection notification to Fund A. Both Fund A and Gateway A connect and receive information from FVS. Fund B (version 1) and Gateway B connect and receive information from FVS.

Notes:

- IRR should be sent in V1 as Fund B is not ready to accept V2.
- Gateway would most likely reject the message because that Service Value won't be registered as a valid Service Value.

- Depending on the agreement between the Fund and the Gateway, the validation should be done at Gateway A (as part of the sending solution) and rejected by Gateway A. Gateway B should still have validations in place in the event that Gateway A doesn't reject for some reason.

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Version control and endorsement

A guide to the rollover v2 conformance testing process for funds and solution providers.

Last updated 16 January 2018

Version control

Version	Release date	Description of changes
V0.1	13.04.2016	Initial draft for internal review
V0.7	21.04.2016	Updated draft for internal review
V0.75	09.05.2016	Updates to sections 1-3 and appendices for internal review
V0.76	30.05.2016	Updates from external review and feedback.
V0.81	15.06.2016	Updates from additional external feedback and restructure
V1.0	28.06.2016	Create final version

Endorsement

Approved by Nicole Dykstra, Assistant Commissioner, APRA Fund Client Engagement and SuperStream Delivery, Superannuation, Australian Taxation Office

More information

For further information or questions, email **SuperStreamStandards@ato.gov.au**

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