SBR PROGRAM

SELF-CERTIFICATION TESTING GUIDE

Purpose: This document provides advice to SBR Agencies and software developers on SBR testing and self-certification of SBR-enabled software.

Date: April 2011

Contact: For further information or questions, contact the SBR Core Services Operating Unit at **sbrservicedesk@sbr,gov,au** or call 1300 488 231

DOCUMENT CHANGE CONTROL

Version number	Date of issue	Author(s)	Brief description of change
1.0	16/10/2009	SBR Program	Final
1.1	08/03/2011	SBR Testing team	Update to reflect BAU

DOCUMENT APPROVALS

This document was approved by:

Name	Title	Date
Greg Divall	SBR Program Manager	21/03/2011
Helen Austin	SBR Chief Solutions Architect	21/03/2011
John McAlister	Assistant Commissioner SBR Services and Operations	06/04/2011

COPYRIGHT

COPYRIGHT

TABLE OF CONTENTS

1 INTRODUCTION

1.1 PREREQUISITE

This document relates only to the 'self certification' test process in order that the software developer may declare that their product is SBR enabled. It is important to note that the conformance test cases are designed to provide technical assurance that the web services and XBRL infrastructure have been implemented correctly. To this end, conformance test cases do not exhaustively cover all possible business scenarios. It is assumed that the software developer has conducted their own industry standard quality reviews and tests to their own commercial satisfaction prior to starting their SBR conformance testing.

1.2 PURPOSE

The purpose of this document is to provide information that will assist software developers to complete SBR conformance testing of their products.

## 1.3 AUDIENCE

The audience for this document is any organisation that will be extending their software to make it SBR-enabled.

Readers should be familiar with the following:

•   SBR Program – please see **www.sbr.gov.au** for further information.

•   XBRL – please see **www.xbrl.org** for further information.

•   Web Services – please see **www.ws-i.org** for further information.

1.4 DOCUMENT CONTEXT

Figure 1 - SBR Product Map
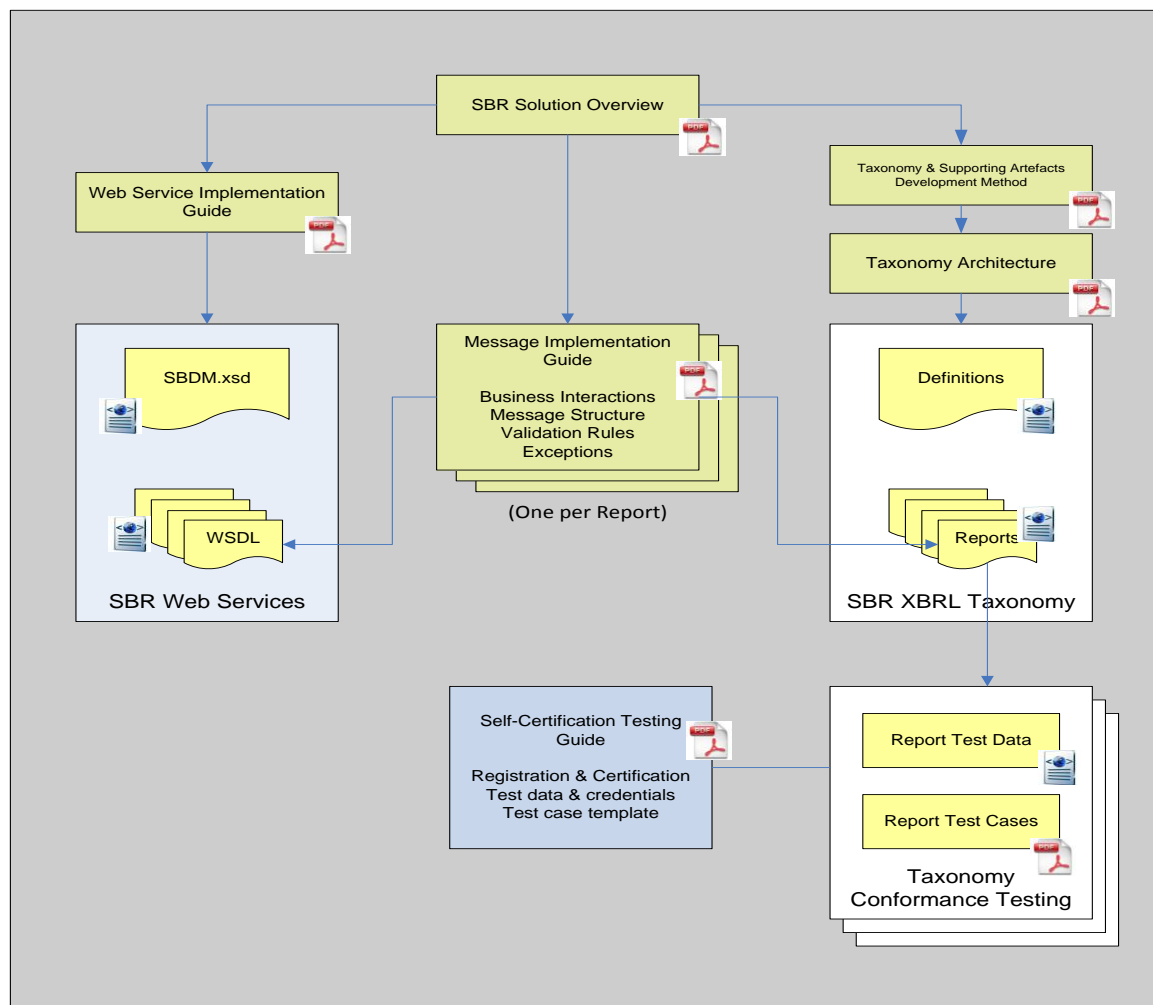
The documents and schema (except for the Reporting taxonomy conformance suite package) shown in Figure 1 are available from the SBR website (www.sbr.gov.au). Reporting taxonomy conformance suite packages are available from the SBR Core Services Operating Unit (CSOU)[1]. Software developers should:

*   Use the Web Services Implementation Guide (WIG) and the supporting Web Services Descriptions Language (WSDL) to build basic SBR security and messaging capability. The web service implementation is generic and is independent of any specific reporting obligation.

*   Use the relevant Message Implementation Guide (MIG) and supporting XBRL reporting Taxonomy to implement each report that will be supported by the software product. Each MIG has an associated taxonomy level conformance test suite that is used by the software developer for self-certification.

---

1   The SBR CSOU provides the ongoing SBR Program operational services. All requests and queries to the SBR CSOU should be registered with the SBR Service Desk. The contact details are: Email: sbrservicedesk@sbr.gov.au or Phone: 1300 488 231. Support is available between 8:00 am – 7:00 pm AEDT, Monday to Friday.

1.5 DOCUMENT SCOPE

- Section 2 describes the software developer self-certification framework. The framework includes the self-certification process workflow, the testing landscape, support procedures, and change management (including requirements for re-self-certification). Advice on when re-self-certifying is required will be included in the Release Notes that accompany new versions of the Taxonomy and relevant SBR artefacts.

- Section 3 describes the Taxonomy conformance testing framework. There is one conformance test suite per Agency report (or related set of reports). One test suite will comprise several test cases. Test cases are versioned to support new versions of the corresponding reporting Taxonomy.

1.6 TERMINOLOGY

For definition of the terminology and acronyms used within this document, please refer to the **glossary**[2] on the SBR website.

---

2   To access this hyperlink, software developer will need to have previously logged into the SBR Website.

2   SOFTWARE DEVELOPER SELF CERTIFICATION FRAMEWORK

Both SBR Agencies and software developers seek confidence that SBR enabled software products will lodge valid reports. Accordingly, the SBR Program has established a conformance testing framework for software developers. It is important to note that the conformance test cases are designed to provide technical assurance that the web services and XBRL infrastructure have been implemented correctly. To this end, conformance test cases do not exhaustively cover all possible business scenarios. It is assumed that the software developer has conducted their own industry standard quality reviews and tests to their own commercial satisfaction prior to starting their SBR conformance testing.

2.1   SELF-CERTIFICATION MODEL

The SBR approach to software product certification follows a self-certification model. Each software developer is required to complete a suite of conformance tests for a report and to maintain records of successful tests for audit purposes. Software developers that have developed products that have complied with the conformance suite testing outcomes for a report may be eligible to complete a Self-Certification Declaration. The Self-Certification Declaration is made by the authorised representative of the software developer and forwarded to the SBR Program. On receipt of a complete and valid Self-Certification Declaration the software developers SBR enabled software product and/or product suite will be listed on the SBR website (SBR Registered Software Products Register).

The SBR certification approach is based on the current Australian Taxation Office (ATO) process for software developer certification. It firstly establishes the minimum criteria that the software must meet, and then requires the software developer to declare that they have achieved the required testing results. The results are not reviewed by Government or by a third party, so the declaration is a self-certification of compliance, with no implied approval or endorsement by the SBR Program or any Government Agency. However, on a risk basis, the SBR Program may undertake a targeted compliance audit of software developers' adherence to the agreed processes.

2.2 CONFORMANCE TESTING WORKFLOW

The conformance testing workflow is shown in Figure 2 below.

Figure 2: Self-certification Process
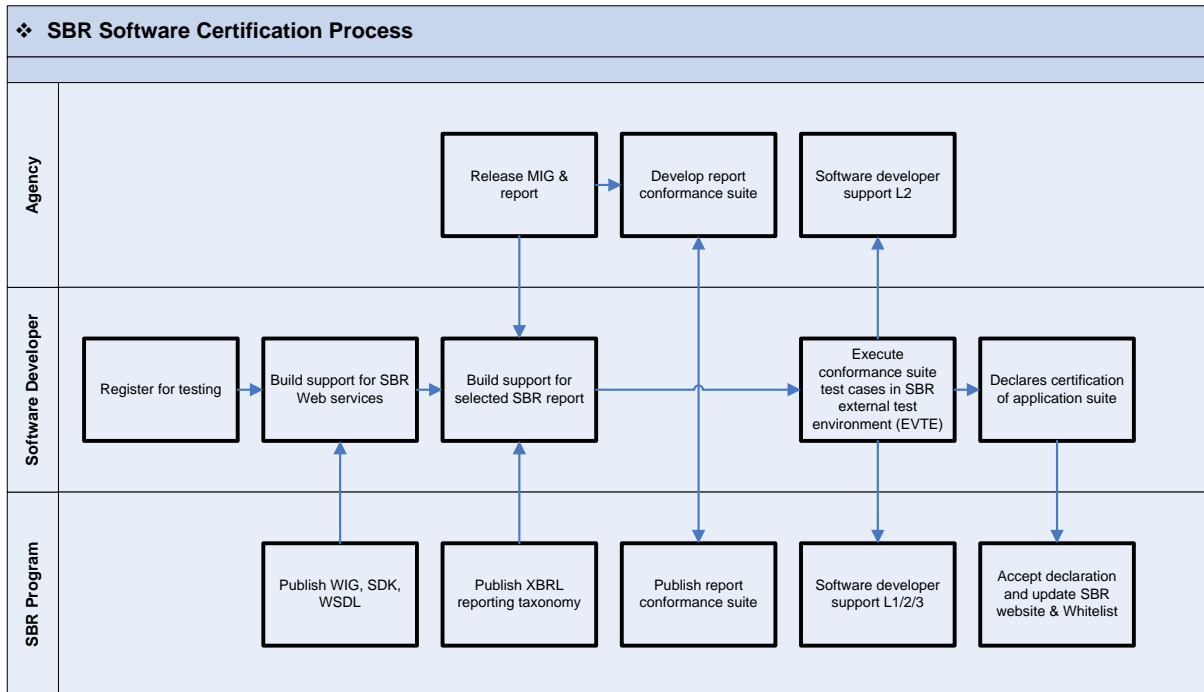
❖ It is important to note that software certification is **NOT a one-off process**. There maybe be events which require software developers to re-certify such as the release of an updated taxonomy, changes to agency application, changes to legislation or change to the certified product being released by the owner. When SBR Program deemed certification or re-certification is mandatory, software developers will be notified accordingly.
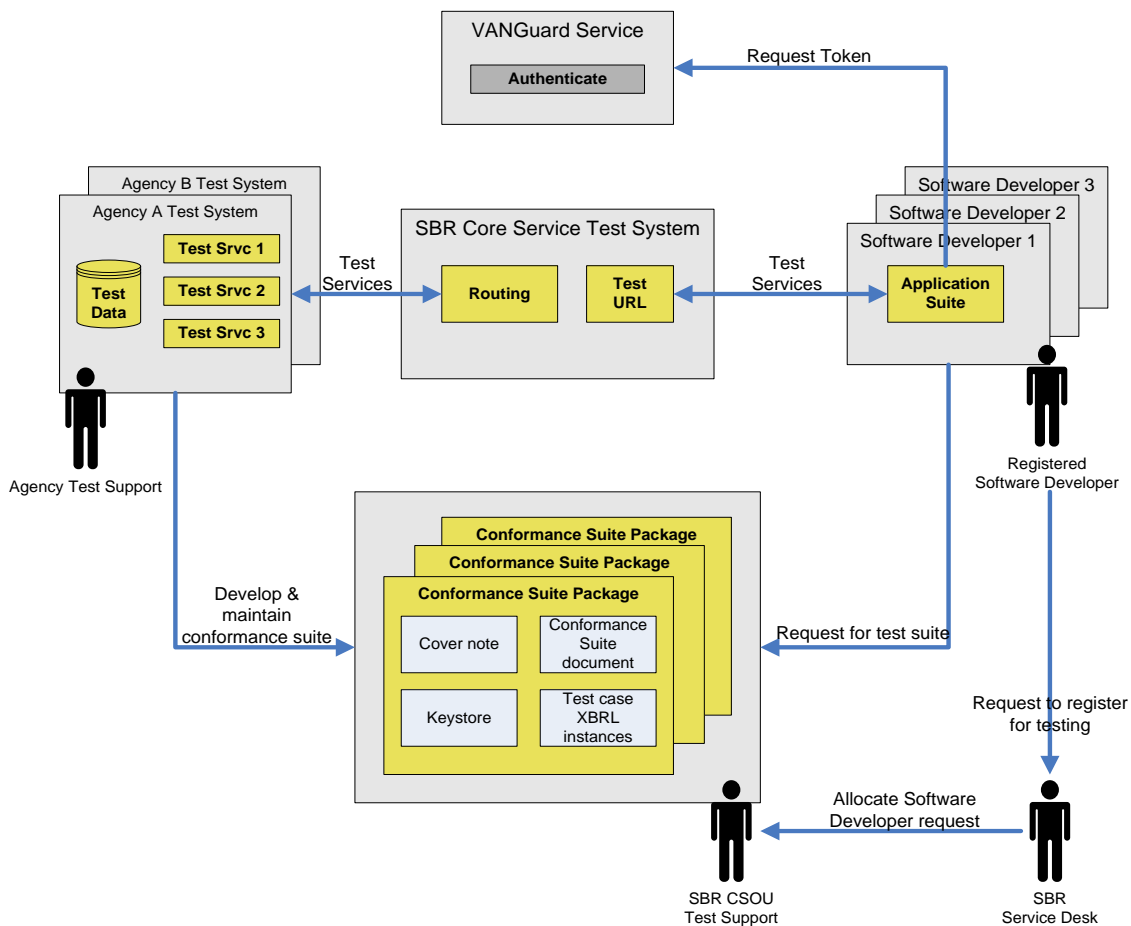
The key points are:

• Software developers register with the SBR Program to notify their interest to support the various SBR reports.

• For each report in scope for SBR, Agencies will develop the corresponding conformance suite document and test cases. The SBR Program will be responsible for publishing the conformance suite package and making it available to software developers.

• XBRL Taxonomies and other relevant components will be uploaded to the SBR website as part of the SBR Taxonomy release process.

• Support will be available to software developers through the SBR service support model. The initial contact will be through the SBR service desk. The SBR Core Services Operational Unit (CSOU) will work closely with software developers and the relevant resolver groups to ensure that the process is straightforward and easily understood.

• The External Vendor Test Environment (EVTE) will be established and maintained for continuous and concurrent use by software developers. All conformance tests are performed via the SBR EVTE. Software developers must keep the testing results for audit purposes.

• Conformance testing at the Taxonomy level is performed on a report by report basis. Each report is supported by a conformance test suite package that includes the cover note, conformance suite document, xbrl instances and keystore containing the required credentials.

- Software developers declare (Self-Certification Declaration) successful conformance tests to the SBR Program. SBR maintains a list of software products (SBR Registered Software Products Register) and the SBR reports with the taxonomy versions for which the product has successfully completed conformance testing, and all incoming messages in production are checked against this list. In addition, this information will be published on the SBR website.

- New versions of SBR reporting taxonomies require software developers to complete conformance tests and declaration of certification or re-certification upon successful completion of testing. New and or updated taxonomies, and corresponding conformance suite packages are published with each taxonomy update.

- Software developers should communicate conformance claims (Self-Certification Declaration) to SBR for each version of their product that is released to market. However, SBR recognises that software products may have frequent releases and that not every release includes changes to SBR interfaces. Accordingly, it is the responsibility of the software developer to assess, and be prepared to substantiate, whether regression testing against SBR conformance test suites is necessary.

2.3   TESTING LANDSCAPE

The physical landscape for conformance testing is shown in Figure 3 below.

Figure 3 - Testing Landscape

The key points are:

•	Each SBR report (or related set of reports) is supported by a MIG. Each MIG will be supported by one 'Conformance Test Suite' document.

•	Each conformance test suite has multiple test cases.

•	Test messages are authenticated via the test Vanguard STS (Secure Token Service).

•	Test messages are sent to Agency test systems via the SBR Core Services EVTE, the test environment accessible to external organisations.

•	Agencies define the conformance criteria for each test case and provide suitable test interfaces.

•	Agency test interfaces are generally 'idempotent' (calling the same interface twice with the same data delivers the same result). This allows multiple independent software developers to execute the same test cases at the same time. However, some test interfaces will not be idempotent and developers should refer to the relevant conformance test suite documentation for instructions on how to avoid clashes:

	–	In some cases, software developers may be required to call a rollback transaction prior to testing the 'lodge' service. In such cases, the test case will specify how to call the rollback.

	–	In other cases, Agencies may offer a daily refresh of test data and so developers will need to request a reserved timeslot for testing.

2.4 TEST SERVICE URLS

The SBR software developer test web service URLs are:

Service	URL
List	https://test.sbr.gov.au/services/list.02.service
PreFill	https://test.sbr.gov.au/services/prefill.02.service
PreLodge	https://test.sbr.gov.au/services/prelodge.02.service
Lodge	https://test.sbr.gov.au/services/lodge.02.service

SBR web services should be invoked in accordance with the specifications defined in the Web Service Implementation Guide (WIG).

3 TAXONOMY CONFORMANCE TESTING

Taxonomy conformance testing confirms for each reporting obligation that:

– Client software can create valid XBRL business messages that meet validation rules in the XBRL Taxonomy and any Schematron rules.

– Client software correctly implements business rules defined in the corresponding MIG (Message Implementation Guide);

– Agency response data is correctly handled in accordance with the MIG.

– Business exceptions returned in the standard <Message.Event> header are correctly handled by client software.

3.1 TAXONOMY CONFORMANCE TEST SUITE

Taxonomy conformance tests are Agency report and taxonomy specific. Similar reports (for example, different types of ATO Activity Statement or PAYG summaries) will typically be grouped together into one conformance test suite.

The goal of Taxonomy conformance testing is to minimise the risk that a business user submits an invalid report to SBR. Accordingly, SBR Agencies will select a set of conformance test cases that adequately exercise the validation business rules in place within Agency systems.

To claim conformance for a particular report (for example, Activity Statement or ATO FBT Tax Return 2009/2010 or ATO FBT Tax Return 2010/2011), software developers must successfully complete all relevant conformance test cases within the corresponding conformance test suite. Advice on which cases apply can be sought from the SBR CSOU Team.

3.2 TEST CASE EXECUTION

Software developers would need to contact SBR by sending a request in an email to SbrServiceDesk@sbr.gov.au or by calling 1300 488 231 between 8:00 am – 7:00 pm AEDT, Monday to Friday to obtain conformance test suite packages.

It is important to emphasise that the published conformance test suites represent the ***minimum*** set of tests that provide adequate confidence in the ability of the software product to produce valid lodgements. In consultation with SBR, software developers may wish to derive further test cases from the MIG as necessary to meet their own quality standards.

Every software product is different and SBR makes no assumptions about the behaviour of the product user interface. Accordingly, SBR conformance test cases are written to exercise the observable behaviour of the SBR interface and do not contain any reference to user actions via the software product user interface.

Each test case defines the required test data, the test execution steps, and the conformance criteria. Software developers must complete all steps in the test case and maintain records as evidence that the specified conformance criteria have been met.

Some test cases can be included into conformance suites for the purpose of the negative testing and to give example of invalid XBRL request instances and the resulting error messages. These test cases may be completed by software developers when it doesn't require to change their codebase. XBRL instances for such test cases can be invalid and don't require software developers to be able generate them by using their software packages. However in the situation when such instances can be

generated by software developers it might help them in the development and debugging the error handling framework.

3.3 ENTRY AND EXIT CRITERIA

Entry criteria for Taxonomy conformance testing:

- The Software developer has requested and return a signed copy of the Software Developer's Licence for SBR (Note: While this does not need to be completed before starting conformance testing, it will be required as part of the exit criteria)

- The developer has mapped, modified and tested their products.

- The developer has registered with SBR for conformance testing.

Exit criteria for Taxonomy conformance testing:

- All test cases in the selected conformance test suite have been successfully completed.

- Test results have been stored for possible audit by SBR.

- Conformance claims – that is, the successful completion of conformance testing for a report - have been communicated to SBR.

3.4 REGRESSION TESTING

3.4.1.1.1 SBR and Agency Related Changes (eg. Taxonomy Related Changes)

When there are changes to an existing report implementation (eg. a new version of a reporting Taxonomy is released, changes to agency backend system), there may be a requirement for software developers to re-certify for that report. When SBR Program deemed that certification or re-certification is mandatory, software developers will be notified accordingly. Depending on the scope of the change, not all test cases in a test suite may be impacted. Each test case in a test suite has a unique identifier of the form:

CONF-[Agency]-[SuiteName]-[TestCaseNumber]-[Version]* — for example:

- CONF-ATO-AS-001.01

- CONF-NSW-PTAR-001

* - the last "version" element is an optional one and can be used by an agency only if they see a need for it (eg. there are a few versions of the same test case)

In order to claim conformance against the particular reporting Taxonomy, software developers should complete conformance testing using the test cases listed in the relevant conformance test suite.

3.4.1.1.2 Software Product Version Changes

SBR maintains a record of software developer conformance claims, listed by major version of each software product. For each major version release of a software product, regression testing should be completed and results kept for audit purposes. Software developers should present conformance claims to SBR for each major product version. For each minor version, software developers should confirm that the release does not affect the SBR interfaces.

3.5 TEST CASE TEMPLATE

A sample test case is provided in the table below. It represents a real test case from the ATO FBT conformance test suite.

Table 1: Test Case Sample

Test Case ID	CONF-ATO-FBT-025.01		
Conformance Suite ID	**ATO-FBT**		
Purpose	**To confirm that a Tax Agent with valid ABN and credentials can request a Prelodge and Lodge for an FBT Annual Return and receive valid responses.** **This request is a FBT Amended Return for "Non-Individual" with EFT details and payment due.**		
Business Profile(s) Required	**Tax agent with ABN 78330347529 and TAN 17801003** **Payer TFN 29193434**		
Credential(s) Required	**Authorised Person: Alan Donald** **Person Id: 24442222**		
Additional Notes	**This case is a 'repeatable' test case. That is, the same test results are returned on subsequent execution of this script.**		
Test Case Execution			
Step	**Description**	**Conformance Criteria**	**Result**
1	Call the FBT Prelodge service with the valid ABN and credential	Receive FBT Prelodge response containing verified details of FBT and receive response message with MessageEvent element containing Message.Event.Item.Error.Code = SBR.GEN.GEN.OK and Message.Event.Item.Short.Description = "Request received successfully"	
2	Call the FBT Lodge service with a valid ABN and credential the same as for the Prelodge	Receive FBT Lodge response containing confirmation of lodgement of return for FBT and receive response message with MessageEvent element containing Message.Event.Item.Error.Code = SBR.GEN.GEN.OK and Message.Event.Item.Short.Description = "Request received successfully"	
3	Save all request and response envelopes together with this completed test case for audit purposes	N/A	
Test Instance Data			
Prelodge	CONF-ATO-FBT-025.01_Prelodge_Request.xml		
Lodge	CONF-ATO-FBT-025.01_Lodge_Request.xml		

The key points are:

•   Each test case has a specific purpose.

•   Each test case specifies the required values for any specific parameters. The parameters will normally be specific values for XBRL Taxonomy elements. Accordingly the fully qualified XBRL data element names are used in order to avoid ambiguity.

•   Test case execution steps and conformance criteria are written from the perspective of the data interface ('provide these values in the request and you should expect to get this response').

- Every test case provides reference XBRL instance data sets for each request/response interaction in the test case where applicable. It is not expected that the software developer will use these directly because the normal scenario is that the request envelopes are generated from data in the software application. However, the reference envelopes can be used to help software developers during testing because they contain test case specific data that would generate a successful test result.

4 SOFTWARE DEVELOPERS INTEGRATING SBR ENABLED COMPONENTS

This section is for software developers who have integrated components built by third parties (other software developers) to support SBR requirements into their product suite.

Given the self-certification for a particular SBR report is at a product suite level, the product suite will need to demonstrate that it can execute all the required test cases as per the relevant conformance suite. The software developer must keep the testing results for audit purposes.

As part of the self-certification declaration, the software developer will be required to disclose any components sourced from other software developers. This is for information only and may be useful information in the event of an issue identified by a business client.

Software developers who choose to integrate components of other software developers do so at their own risk. These commercial arrangements are outside the SBR Program's responsibility.