RESERVE BANK INFORMATION AND TRANSFER SYSTEM

RITS Low Value Feeder Project

Low Value Settlement Service

Bulk FSI Upload Facility

Member Technical Specifications

Revised (Version 1.1)

November 2013

Table of Contents

1. Introduction

1.1 Background

This paper provides Members[1] with detailed technical information for using the new Bulk FSI Upload Functionality (Bulk FSI Upload) to be introduced as an enhancement to the RITS Low Value Settlement Service (LVSS) in June 2013.

The Bulk FSI Upload functionality will allow a Member to upload a file containing one or more LVSS File Settlement Instructions (FSIs) into RITS via the RITS User Interface. The aim of this functionality is to facilitate efficient submission of FSIs to RITS in the event of a contingency where a Member is not able to send FSIs to RITS via COIN or SWIFT FileAct, the normal channels used by Members for submitting FSIs to RITS.

Detailed information about this functionality is provided in the Bulk FSI Upload User Guide available on the RITS Information Facility.

1.2 Purpose and Scope of this Document

The purpose of this document is to provide information to Members to enable development of the necessary capability within their systems to use the Bulk FSI Upload functionality. This document provides detailed message specifications relevant to the Bulk FSI Upload functionality. A brief overview of the functionality is also provided. A user guide for the Bulk FSI Upload is available on the RITS information facility.

1.3 Related Documents

This document should be read in conjunction with the following LVSS documentation, which is available on the RITS Information Facility:

- *Low Value Settlement Service FSI Message Usage Standards, June 2011*; and

- *Low Value Settlement Service Member Technical Specifications (revised), June 2011*.

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[1] For the purposes of this document, the term "Member" is used to mean current and prospective members of RITS who are direct clearing participants of low value clearing systems and who settle directly across their ESA the interbank obligations arising from these clearings.

2. Key Features of the RITS Bulk FSI Upload Facility

2.1 Overview

Currently two options are available to Members to submit FSIs to RITS. A Member can send message-based FSIs to RITS via the COIN or SWIFT FileAct network. Alternatively, a manual FSI can be entered into the RITS User Interface. These options allow only one FSI to be submitted to RITS at a time.

The new Bulk FSI Upload functionality will allow Members to upload multiple FSIs into RITS at once using the RITS UI. These FSIs will be contained in a single file (Bulk FSI File), which the uploading user will select from their PC using a standard Windows Browser. After RITS has accepted a Bulk FSI File, the contents of the file will be separated into individual FSIs. RITS will process these FSIs in a manner consistent with the COIN or SWIFT FileAct-originated message-based FSIs. Consequently Bulk FSI File-sourced FSIs will be able to be viewed in the standard LVSS enquiries and reports, and will be tested for settlement in the normal way.

2.2 Eligible Sessions

Like manual and message-based FSIs, uploading of Bulk FSI Files will be possible in all RITS sessions including the Overnight Enquiry Session. However settlement will only occur in normal RITS settlement sessions.

2.3 File Size/Format

A Bulk FSI File may contain one or more FSIs (up to the allowable limit of 999). A file to be uploaded into RITS must be in one of the following formats:

- XML: An XML-based file must conform to either the new Bulk Upload File XML Schema (see section 3.1) or the existing XML Schema definition (currently in use in LVSS, see section 3.3). While a Bulk FSI Schema allows one or more FSIs to be included in a single file, the XML Schema allows inclusion of only one FSI in a file.

- CSV: A CSV-based file must conform to the CSV file format definition (see section 3.2). This format allows one or multiple FSIs to be included in a single file.

It will be possible to include FSIs for different Payment Services in the same Bulk FSI File.

2.4 File Name

The naming convention for the Bulk FSI File will be as follows. The file name:

- must not exceed 30 alphanumeric characters (including file extension);

- must have an extension of either XML or CSV depending on the file format used;

- must only contain allowable characters which are: A-Z; a-z; 0-9; underscore(_); hyphen(-); full stop(.); and

- must not contain any of these words: *delete*; *insert*; *update*; *select*; *alert*; *cookie*; *<!DOCTYPE*; and *<!ENTITY*.

When the Bulk FSI File is processed and split into individual FSIs, each FSI will be assigned its own "file name", which will conform to the existing FSI file name format, FSI.ORIG.XXXXXXXXXXXXXXXX.XML. ORIG will be the Originator's RITS mnemonic, and

XXXXXXXXXXXXXXXX will denote the Transaction Reference Number (up to 16 alphanumeric characters) as specified in the FSI.

2.5   Uploading a Bulk FSI File into RITS

The Bulk FSI File will be uploaded into RITS via the RITS User Interface. The user will select the file to be uploaded from their PC using the standard Windows Browser. Upon submission, RITS will perform security and format checks. If these checks are passed, an option to confirm the upload will be displayed to the user. In the event a security or format check is failed, the file will not be uploaded and an on-screen error message will be displayed.

2.6   Processing

Following a successful upload, RITS will create a separate XML-formatted FSI for each FSI contained in the Bulk Upload File. The current arrangements for settlement will apply. This means future-dated FSIs will be warehoused before being placed on the RITS Queue on the settlement date. Those with the settlement date of current day will arrive on the RITS Queue immediately to be tested for settlement in the normal way.

Note, it is possible for a Bulk FSI File to be uploaded successfully, with one or more FSIs in it selectively rejected by RITS subsequent to the upload. This is because in creating XML-formatted single FSIs from the uploaded Bulk FSI File, RITS performs business validations on the contents of each FSI. Where an individual FSI does not pass these validations, RITS will reject it and send an FSRU1 (File Settlement Response – Unsuccessful 1) to the Originator or their agent (where applicable). For example, an FSI that is otherwise valid but has the Settlement Date of prior to the current date will fail business validations and hence will be rejected. Bulk FSI File-orignated FSIs that pass business validations will be accepted by RITS, with an FSA1 (File Settlement Advice 1) generated for transmission to the Originator and/or Counterparty if selected.

Members will be able to view accepted and rejected FSIs and RITS-generated associated responses in the RITS LVSS File Enquiry in the normal way.

2.7   Authorising a Bulk Upload

A Member will be able to place an authorisation on the Bulk FSI Uploads. Where an authorisation has been placed, the Bulk FSI Upload will only be processed after it has been authorised by another user. The Bulk Upload file remains in the status of Awaiting Authorisation until it is authorised.

2.8   Enquiring on a Bulk Upload File

Bulk FSI Files that have been uploaded successfully in the previous seven business days will be able to be queried in RITS by Members. It will be possible to view basic information about the file such as name, format (XML or CSV), size, number of FSIs within the file and user details of the uploading user and authoriser (where relevant).

Selected details about each FSI with the uploaded file will also be available to view, such as TRN, Counterparty, Payment Service, Clearing Description, Settlement Method, Settlement Date and Settlement Amount.

2.9   Deleting a Bulk FSI File

It will be possible to delete a Bulk FSI File provided it is in a status of Awaiting Authorisation. Bulk FSI files that have been uploaded and authorised may not be deleted. It will not be possible to delete a file that has been uploaded successfully and for which no authorisation was required.

2.10   LVSS Responses and Advices from RBA

Existing rules for generation of LVSS advices and responses will apply to FSIs sourced from the Bulk FSI Files. This means regardless of the mode selected for transmission of an FSI to RITS, LVSS responses and advices will be sent to Members in a consistent manner based on the members' message selection.

RITS currently includes in the response *File Settlement Response – Unsuccessful 1 (FSRU1)* the file name of the FSI to which the response relates. This standard will also apply to FSRU1s where the underlying FSIs have been sourced from Bulk FSI Files. Note for FSIs originating from Bulk FSI Files, the files names would have been assigned by RITS as per the naming standard outlined in section 2.4.

2.11   Recalling a File Settlement Instruction

Existing rules for recalling an FSI will apply regardless of the mode of FSI entry, including Bulk FSI Upload. It will be possible to use manual or message-based File Recall Instruction to recall an FSI entered using the Bulk FSI Upload functionality.

3.   Upload File Message Specifications

The upload file must conform to:

- Bulk FSI File XML Schema;

- Bulk FSI File CSV file format; *or*

- XML Schema (currently in use in LVSS).

3.1   Bulk FSI File XML Schema

The Bulk FSI File XML Schema will be downloadable from the RITS Information Facility.

The Bulk FSI File Schema includes a namespace. While it is not mandatory to include a namespace in the Bulk FSI File entered into RITS it is highly recommended that it is included.

3.1.1   File Structure

A Bulk FSI File conforming to a Bulk FSI File Schema will always have a root element of <BlkFSI>, or <BlkFSI xmlns="urn:au:gov:rba:rits:lvss:xsd"> where a namespace is included. The file will end with a footer </BlkFSI>. Between the root element and the footer up to 999 individual FSIs can be encapsulated.

Each encapsulated FSI will have its own header <FSI> and footer </FSI> separating it from other FSIs in the Bulk FSI File. The contents of each FSI will be identical to those of a standard single message-based FSI conforming to the standard LVSS FSI XML Schema. The only exception is that while a standard message-based FSI may have a namespace, individual FSIs within a Bulk Upload FSI will NOT have a namespace. Please refer to section 4.10 of the document Low Value Settlement Service Member Technical Specifications for FSI message specification details. This document should be read in conjunction with Low Value Settlement Service FSI Message Usage Standards that details specific requirements for population of various FSI fields (e.g. Payment Service, Clearing Description and Clearing File Reference), depending on the clearing activity to which the FSI relates.

The following section provides an example of a Bulk FSI File containing two FSIs.

3.1.2   Bulk FSI File Example

```xml
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<BlkFSI xmlns="urn:au:gov:rba:rits:lvss:xsd:LVSS">
    <FSI>
    -   <Hdr>
            <TxId>NTHB27938764</TxId>
            <Vrsn>1.0</Vrsn>
        </Hdr>
    -   <ClrInf>
            <PmtSvc>BECN</PmtSvc>
            <PmtDt>2010-08-16</PmtDt>
            <ClrDesc>10:00</ClrDesc>
            <ClrFileRef>DEDATA.FILENAME</ClrFileRef>
            <InstgAgt>NTHB</InstgAgt>
            <InstdAgt>STHB</InstdAgt>
            <TtlCdtAmt>10632056.23</TtlCdtAmt>
            <NbOfCdtItms>1062</NbOfCdtItms>
            <TtlDbtAmt>1321457.85</TtlDbtAmt>
            <NbOfDbtItms>133</NbOfDbtItms>
        </ClrInf>
    -   <SttlmInf>
            <IntrBkSttlmDt>2010-08-17</IntrBkSttlmDt>
            <IntrBkSttlmAmt>9310598.38</IntrBkSttlmAmt>
            <Dbtr>NTHB</Dbtr>
            <Cdtr>STHB</Cdtr>
            <SttlmMtd>M</SttlmMtd>
        </SttlmInf>
    -   <DbtrSttlmInf>
            <ESASts>P</ESASts>
            <CdtSts>P</CdtSts>
            <CshAcctSts>P</CshAcctSts>
        </DbtrSttlmInf>
    </FSI>
    <FSI>
    -   <Hdr>
            <TxId>NTHB27938765</TxId>
            <Vrsn>1.0</Vrsn>
        </Hdr>
    -   <ClrInf>
            <PmtSvc>BECN</PmtSvc>
            <PmtDt>2010-08-16</PmtDt>
            <ClrDesc>10:00</ClrDesc>
            <ClrFileRef>DEDATA.FILENAME1</ClrFileRef>
            <InstgAgt>NTHB</InstgAgt>
            <InstdAgt>STHB</InstdAgt>
            <TtlCdtAmt>10632056.23</TtlCdtAmt>
            <NbOfCdtItms>1062</NbOfCdtItms>
            <TtlDbtAmt>1321457.85</TtlDbtAmt>
            <NbOfDbtItms>133</NbOfDbtItms>
        </ClrInf>
    -   <SttlmInf>
            <IntrBkSttlmDt>2010-08-17</IntrBkSttlmDt>
            <IntrBkSttlmAmt>9310598.38</IntrBkSttlmAmt>
            <Dbtr>NTHB</Dbtr>
            <Cdtr>STHB</Cdtr>
            <SttlmMtd>M</SttlmMtd>
        </SttlmInf>
    -   <DbtrSttlmInf>
            <ESASts>P</ESASts>
            <CdtSts>P</CdtSts>
            <CshAcctSts>P</CshAcctSts>
        </DbtrSttlmInf>
    </FSI>
</BlkFSI>
```
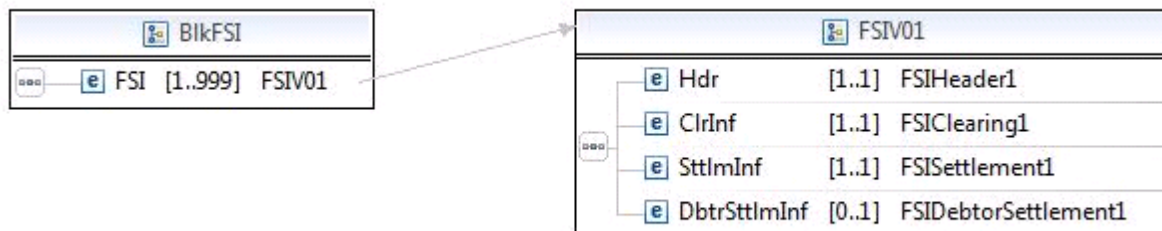
3.1.3   **Bulk FSI File Message Structure Diagram**
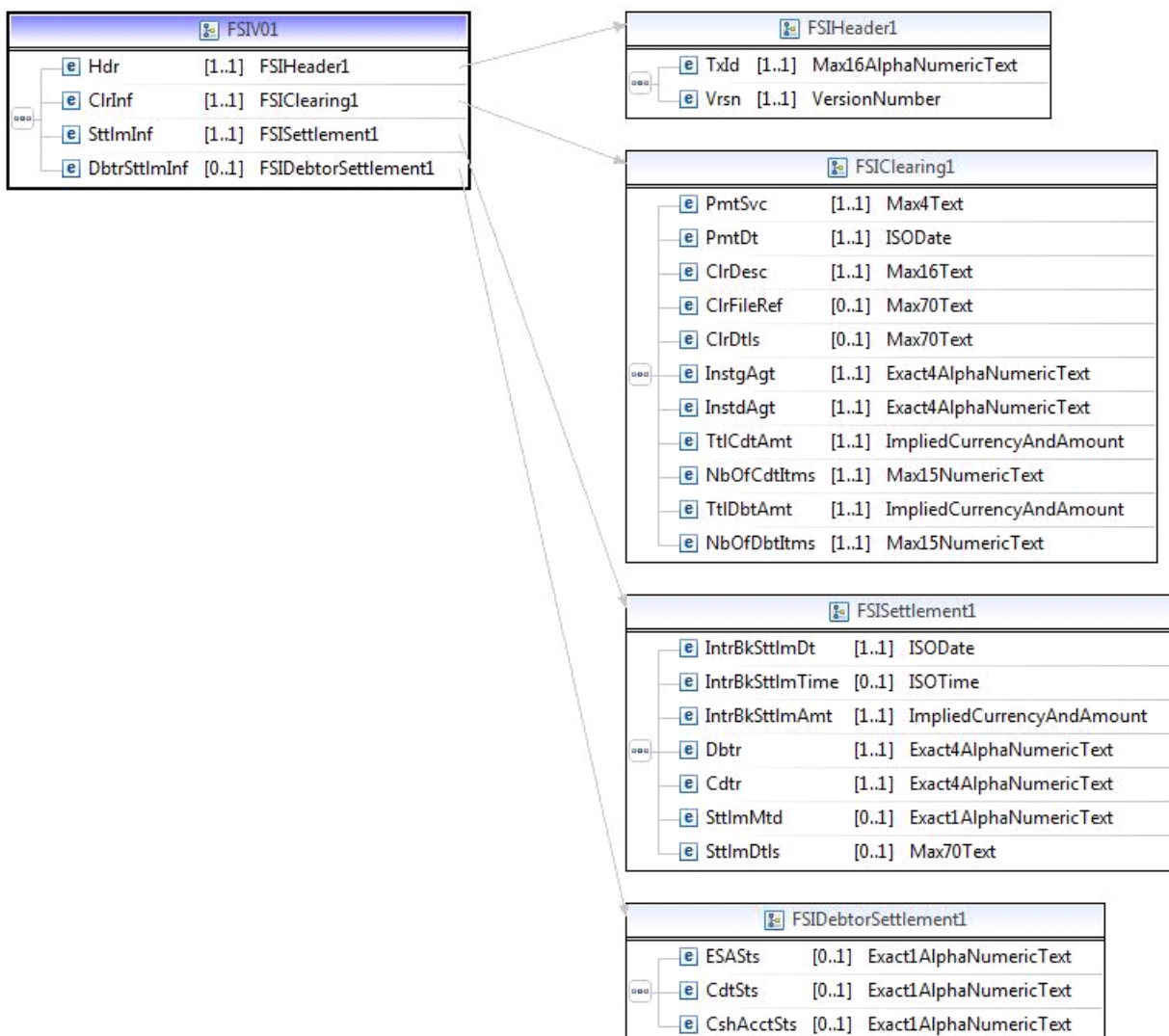
A Bulk FSI File can contain up to 999 individual FSIs.

Each FSI contains up to four XML element groups.

Each XML element group can contain multiple XML elements – Standard FSI Format

3.2   Bulk FSI File CSV File Format

A Member may wish to upload FSIs into RITS using a Bulk FSI File in CSV Format. In this format, all Business Elements pertaining to each FSI are entered in a separate row within the CSV file. The Business Elements in an FSI must be listed in a particular order as specified in the Table 1 below. Each Business Element must be enclosed in quotation marks, with adjacent Business Elements separated by a comma. Where an optional Business Element is to be left unpopulated, empty quotation marks must be inserted (""). Each row in the FSI CSV file must ends inwith a Carriage Return Line Feed ("\r\n"). Some Microsoft-based products apply this automatically.

The Business Elements of XML and CSV FSIs are identical. Please refer to **section 4.10** of the document Low Value Settlement Service Member Technical Specifications for message specification details. There are two exceptions:

- The first element of a CSV-based FSI must always be "FSI". This is not required in an XML format (where this information is contained in the XML Root Element).

- Unlike XML FSIs, a CSV FSI does not have the Business Element XML Schema Version, instead its equivalent CSV Format Version applies, with no change to business parameters i.e. it can be three numeric characters in the format x.y, with current value being "1.0".

Table 1

Position	Business Element	M/O*	Position	Business Element	M/O
1	FSI	M	13	Debit Items Value	M
2	Transaction Reference Number(TRN)	M	14	Debit Items Number	M
3	CSV Format Version	M	15	Settlement Date	M
4	Payment Service	M	16	Settlement Time	O
5	Payment Date	M	17	Settlement Amount	M
6	Clearing Description	M	18	Payer ID	M
7	Clearing File Reference	O	19	Payee ID	M
8	Clearing Details	O	20	LVSS Settlement Method	O
9	Originator ID	M	21	Settlement Details	O
10	Counterparty ID	M	22	ESA Status	O
11	Credit Items Value	M	23	Credit Status	O
12	Credit Items Number	M	24	Cash Account Status	O

*M=mandatory, O= optional

3.2.1 Bulk FSI File CSV File Format

Below are examples of FSIs in a CSV file format. Note, these examples are for illustrative purposes only. Please refer to the [Message Usage Standards document](#) for information on whether a particular field is optional or manadatory.

FSIs with optional and mandatory fields completed

```
FSI,"WPAC123","1.0","BECN","2012-11-11","10:00-01","CLR.REF","WPAC","NABL","4566.12","4","2012-11-12","HH:MM:SS","2000.12","WPAC","NABL","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC789","1.0","BECN","2012-11-11","10:00-02","CLR.REF","WPAC","NABL","9221.12","82","2012-11-12","HH:MM:SS","1201.65","WPAC","NABL","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC654","1.0","BECN","2012-11-11","10:00-03","CLR.REF","WPAC","CBAA","1973.24","52","2012-11-12","HH:MM:SS","1929.01","WPAC","CBAA","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC321","1.0","BECN","2012-11-11","16:30-01","CLR.REF","WPAC","METW","365.64","19","2012-11-12","HH:MM:SS","739.12","WPAC","METW","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC987","1.0","BECN","2012-11-11","10:00-04","CLR.DET","WPAC","MONY","0.00","0","2012-11-12","WPAC","MONY","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC456","1.0","BECG","2012-11-11","20:00","CLR.DET","WPAC","NABL","3655.64","6","2012-11-12","WPAC","NABL","1","SET.DET","A","P","D","\r\n"
FSI,"WPAC234","1.0","APCR","2012-11-11","PAPER-VIC","CLR.DET","WPAC","CBAA","0.00","0","158.00","WPAC","CBAA","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC876","1.0","APCR","2012-11-11","PAPER-QLD","CLR.DET","WPAC","BQLQ","0.00","0","460.98","WPAC","BQLQ","M","SET.DET","P","P","P","\r\n"
FSI,"WPAC345","1.0","CECS","2012-11-11","ATM/EFTPOS","CLR.DET","WPAC","ANZB","0.00","0","730.07","WPAC","ANZB","M","SET.DET","P","D","P","\r\n"
FSI,"WPAC756","1.0","CECS","2012-11-11","ATM/EFTPOS","CLR.DET","WPAC","BEND","0.00","0","730.07","BEND","WPAC","M","SET.DET","P","P","P","\r\n"
```

FSIs with optional fields left blank

```
FSI,"WPAC123456789310","1.0","BECN","2012-11-11","10:00-01",,,,"WPAC","NABL","000004566.12",,,"2012-11-12",,,,,,"\r\n"
FSI,"WPAC789456789310","1.0","BECN","2012-11-11","10:00-02",,,,"WPAC","NABL","000009221.12","75",,"2012-11-12",,,,,,"\r\n"
FSI,"WPAC654456789310","1.0","BECN","2012-11-11","10:00-03",,,,"WPAC","CBAA","000001973.24",,,"2012-11-12",,,,,,"\r\n"
FSI,"WPAC321456789310","1.0","BECN","2012-11-11","16:30-01",,,,"WPAC","METW","000000365.64",,,"2012-11-12","43",,,,,"\r\n"
FSI,"WPAC987456789310","1.0","BECN","2012-11-11","10:00-04",,,,"WPAC","MONY","000000000.00","0",,"2012-11-12",,"0.00",,,,"\r\n"
FSI,"WPAC456456789310","1.0","BECG","2012-11-11","20:00",,,,"WPAC","NABL","000003655.64","3",,"2012-11-12","2109.12",,,,,"\r\n"
FSI,"WPAC234456789310","1.0","APCR","2012-11-11","PAPER-VIC",,,,"WPAC","CBAA","000000000.00","6",,"2012-11-12","158.00",,,,,"\r\n"
FSI,"WPAC876456789310","1.0","APCR","2012-11-11","PAPER-QLD",,,,"WPAC","BQLQ","000000000.00","0",,"2012-11-12","460.98",,,,,"\r\n"
FSI,"WPAC345456789310","1.0","CECS","2012-11-11","ATM/EFTPOS",,,,"WPAC","ANZB","000000000.00","0",,"2012-11-11","730.07","0",,,,"\r\n"
FSI,"WPAC756456789310","1.0","CECS","2012-11-11","ATM/EFTPOS",,,,"WPAC","BEND","000000730.07","0",,"2012-11-11","730.07",,,,,"\r\n"
```

3.3 XML Schema (currently in use in LVSS)

It will be possible to use the RITS Bulk FSI Upload facility to separately upload into RITS individual FSIs that conform to the existing, single FSI XML Schema. This allows Members to upload, rather than manually type in each single FSI, if they have the FSI available in XML format.

Note, however, that the RBA expects Members to use the RITS Bulk FSI Upload facility in a contingency only, when it is not possible to send FSIs to RITS via the normal means.

The message specifications for an individual XML-based FSI are covered in Chapter 4 of the document Low Value Settlement Service Member Technical Specifications.

3.3.1 Single FSI Message Example

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<FSI xmlns="urn:au:gov:rba:rits:lvss:xsd:LVSS">
  <Hdr>
    <TxId>NTHB27938764</TxId>
    <Vrsn>1.0</Vrsn>
  </Hdr>
  <ClrInf>
    <PmtSvc>BECN</PmtSvc>
    <PmtDt>2010-08-16</PmtDt>
    <ClrDesc>10:00</ClrDesc>
    <ClrFileRef>DEDATA.FILENAME</ClrFileRef>
    <InstgAgt>NTHB</InstgAgt>
    <InstdAgt>STHB</InstdAgt>
    <TtlCdtAmt>10632056.23</TtlCdtAmt>
    <NbOfCdtItms>1062</NbOfCdtItms>
    <TtlDbtAmt>1321457.85</TtlDbtAmt>
    <NbOfDbtItms>133</NbOfDbtItms>
  </ClrInf>
  <SttlmInf>
    <IntrBkSttlmDt>2010-08-17</IntrBkSttlmDt>
    <IntrBkSttlmAmt>9310598.38</IntrBkSttlmAmt>
    <Dbtr>NTHB</Dbtr>
    <Cdtr>STHB</Cdtr>
    <SttlmMtd>M</SttlmMtd>
  </SttlmInf>
  <DbtrSttlmInf>
    <ESASts>P</ESASts>
    <CdtSts>P</CdtSts>
    <CshAcctSts>P</CshAcctSts>
  </DbtrSttlmInf>
</FSI>
```

3.3.2   Single FSI Message Structure Diagram

Each FSI contains up to four XML element groups. Each XML element group can contain multiple XML elements.