



MSRB

Municipal Securities
Rulemaking Board

EMMA – Electronic Municipal Market Access

The Official Source for Municipal Disclosures and Market Data

Specifications for the SHORT Historical Data Product

Version 1.1
August 2015

emma.msrb.org

Revision History

Version	Date	Major Changes
1.0	June 2012	Initial version.
1.1	August 2015	Updated the Resources and Support section to reflect the change in hours of operation for Email Support.
2.0	February 2019	Updated document title.

Resources and Support

MSRB Website: www.msrb.org

EMMA Website: emma.msrb.org

For assistance, contact MSRB Support at 202-838-1330 or MSRBsupport@msrb.org.

Live Support: 7:30 a.m. - 6:30 p.m. ET

Email Support: 7:00 a.m. – 7:00 p.m. ET

Municipal Securities Rulemaking Board

1300 I Street NW, Suite 1000

Washington, DC 20005

Tel: 202-838-1500

Fax: 202-898-1500

Table of Content

Introduction	5
Background	6
Part I: Specifications for the SHORT Document Historical Product	7
Document Delivery	7
Overview of Schemas and Data Tags	7
Document Data Message	7
SHORT Document Historical Product Specification Figures	9
Part II: Specifications for the Short Historical Data Product	24
Data Delivery	24
Overview Schemas and Data Tags	24
Data Message.....	24
SHORT Data Historical Product Specification Figures	27

Introduction

The *EMMA Short-Term Obligation Rate Transparency (SHORT) Historical Data Product* consists of the data and documents of the *SHORT Subscription Service*. The *SHORT Subscription Service* is delivered in real-time through two data streams, the *SHORT Data Web Service* and the *SHORT Document Web Service*. The historical data product combines both data streams to make available a complete set of data and documents.

This specification manual has two parts: Part I contains specifications for the *SHORT Historical Document Product* and Part II contains specifications for the *SHORT Historical Data Product*. Both specifications provide the hierarchical arrangement of the historical data and document structure as it appears on the storage device (such as CD, DVD, or external hard drive) and the data specifications for the *Short-Term Obligation Rate Transparency (SHORT) Subscription Services*.

The *SHORT Historical Data Product* may be purchased in any consecutive twelve-month data set. The *MSRB Historical Product Purchase Agreement* and the *CUSIP Service Bureau License Verification Forms* must be completed prior to the delivery of the historical data product.

Instructions to purchase the *SHORT Subscription Service* and *SHORT Historical Data Product* are located on www.msrb.org.

Background

The *SHORT Historical Data Product*, which became available in June 2012, provides an avenue for obtaining the same data set of documents and related indexing information which were previously only available on a real-time basis through the *SHORT Subscription Service*.

The *SHORT Subscription Service* is the Municipal Securities Rulemaking Board's (MSRB) subscription service of data and documents for municipal Auction Rate Securities (ARS) and municipal Variable Rate Demand Obligations (VRDOs) submitted to the *SHORT System*.

In early 2009, the MSRB created the *SHORT System* to collect and disseminate current interest rates and related information for ARS and VRDOs submitted by dealers under MSRB Rule G-34.

In May 2011, the MSRB enhanced the *SHORT System* to increase information on ARS and VRDOs, as well as add the collection and dissemination of *SHORT* documents.

Information and documents submitted to the *SHORT System* are made publicly available on the Electronic Municipal Market Access (EMMA[®]) website.

Part I: Specifications for the SHORT Document Historical Product

Document Delivery

The SHORT document historical product will provide PDF files of documents, and associated XML files with indexing data, submitted to the SHORT System through both the EMMA web interface and the automated submission interface.

Historical disclosure documents along with associated indexing data are provided on a storage device with the indexing data organized hierarchically in a directory based on the submission transaction date and time stamp (e.g., SubmissionTransactionDateTime = "2008-03-20T00:00:00").

Figure 1 shows the hierarchical structure and relationship of data and documents stored on the historical product storage device.

The disclosure documents may be identified and associated with the corresponding data messages via the File ID reference (e.g., FileIdentifier = "MS223987-2").

Overview of Schemas and Data Tags

This section refers to a series of figures and tables providing more detailed information about the SHORT document historical product. An XML data schema and a type definition schema are included in **Figure 2**. A data tag glossary is provided in **Figure 3**.¹

Document Data Message

Data elements delivered through the SHORT document historical product are identical in format to the current format of the real-time service. As such, the data will be organized in a hierarchical relationship into the following categories: (i) submission data; (ii) security indexing data; (iii) document data; and (iv) file data. These categories and the available data tags applicable to each category are included in **Figure 3** and are also summarized below:

¹ The descriptions of the submission data elements to be provided by submitters to EMMA as described in the Submission Specifications provide more detailed information about the data elements provided to subscribers through the SHORT historical product.

- **Submission Data**

- i) submission status (selected 'publish', 'cancel', 'test')
- ii) submission identifier (identification number assigned by EMMA to identify the submission)
- iii) transaction identifier (identification number assigned by EMMA to identify the submission transaction)
- iv) submission transaction date time (indicates the date and time the submission transaction event was registered in EMMA)
- v) submission transaction count (indicates number of submissions in data message)

- **Security Data**

- i) instrument type (selected 'ARS', 'VRDO')
- ii) security (entered nine digit CUSIP number(s) to which the disclosure is applicable)

- **Document Data**

- i) document type (selected 'LettersOfCredit', 'StandbyBondPurchaseAgreements', etc.)
- ii) document required to be submitted is not available flag (selected 'True', 'False')
- iii) transition period flag (selected 'Yes', 'No')

- **File Data**

- i) file identifier (identification number assigned by EMMA to identify the file)
- ii) document receive date (entered date the document was received)
- iii) file status (entered status)
- iv) file status date (indicates the date and time the submission event was registered in EMMA)



SHORT Document Historical Product Specification Figures

Figure 1: Storage of Historical Information 10
Figure 2: Document Message Schémas 12
Figure 3: Data Tab Glossary 20
Figure 4: Sample XML Messages 23



Figure 1: Storage of Historical Information

Data and Document Hierarchical Profile

Indexing data and document files are hierarchically arranged on the storage device by the year (YYYY) then by the month (MM) and the day (DD).

- The “Doc” directory contains the disclosure documents in PDF format. The PDF files are uniquely named by their File ID (e.g., “EA123456.pdf”).
- The “Index Data” directory contains indexing information about the disclosure documents in XML format. The XML files are uniquely named by their transaction ID (e.g., “EP7891023.xml”).

Some submissions have multiple submission events (“transactions”) because the submitter returned and modified the original submission one or more times. Each transaction is recorded in a separate XML file in the ‘Index Data’ directory. Multiple transactions for the same submission will share the same value in the ‘SubmissionIdentifier’ field.

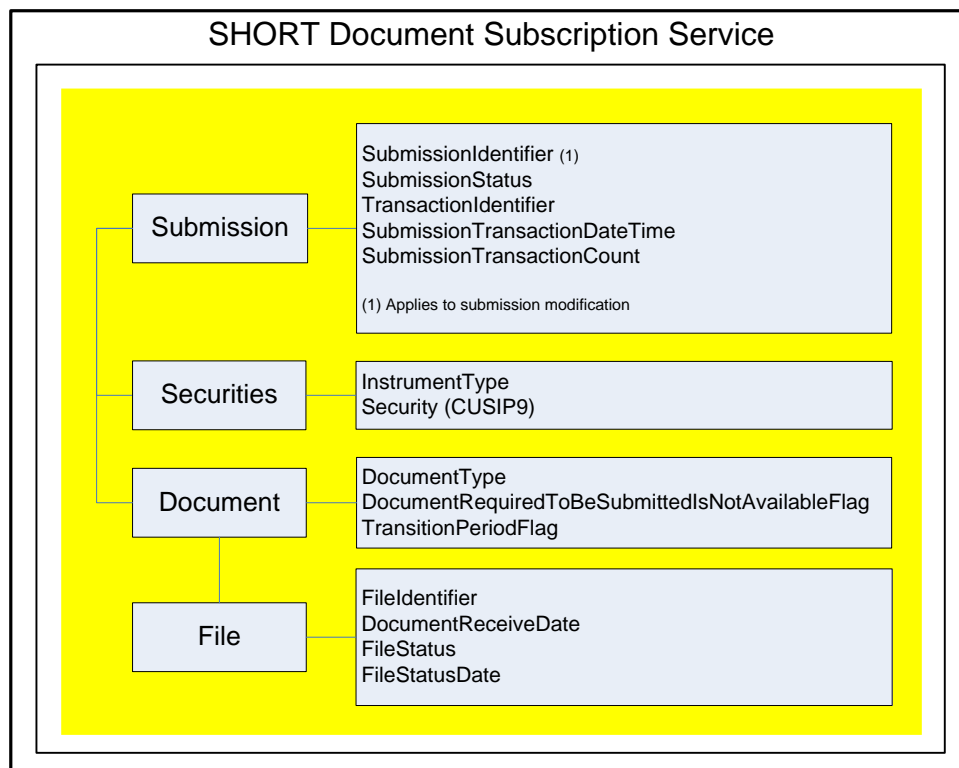
Where multiple transactions exist for a single submission, the most recent transaction will contain the complete, up-to-date information and the earlier transactions can be discarded or overwritten completely. The ‘SubmissionTransactionDateTime’ field can be used to determine which XML file contains the transaction with the most recent transaction for that submission.

Some dates in the “Doc” or “Index Data” directories will not be populated with XML files, documents, or both due to submissions not being received on that date.

Figure 2: Document Message Schemas

Document Message & Type Definition Schemas

Set forth below is a schema model showing the product message structure. Within each message are information containers (Submission, Securities, Document and File) and the information types and values associated with each.



XML MESSAGE SCHEMAS

ShortDocumentSubscriptionService_0.xsd

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:tns="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages">
  <xs:import schemaLocation="https://localhost/EmmaShortDocumentSubscriptionService/ShortDocumentSubscriptionService_1.xsd"
namespace="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/types"/>
  <xs:element name="SubscriptionDataRequestMessage">
    <xs:complexType/>
  </xs:element>
  <xs:element name="SubscriptionResponseMessageType">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SubscriptionDataMessage" type="q1:SubscriptionDataMessageType"
xmlns:q1="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/types"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="SubscriptionDataReplayRequestMessage">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="PostingDate" type="xs:date"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="SubscriptionReplayTransactionsResponseMessageType">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SubscriptionReplayTransactionsMessage"
type="tns:ArrayOfSubscriptionReplayTransactionMessageType"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="ArrayOfSubscriptionReplayTransactionMessageType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="SubscriptionReplayTransactionMessageType" nillable="true"
type="tns:SubscriptionReplayTransactionMessageType"/>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```

```
type="q2:SubscriptionReplayTransactionMessageType" xmlns:q2="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/types"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="SubscriptionTransactionReplayRequestMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SubmissionIdentifier" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="TransactionIdentifier" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

ShortDocumentSubscriptionService_1.xsd

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:tns="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/types">
  <xs:import schemaLocation="https://localhost/EmmaShortDocumentSubscriptionService/ShortDocumentSubscriptionService_2.xsd"
namespace="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/shortdocumentsubscription/types"/>
  <xs:complexType name="SubscriptionDataMessageType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="Submission" type="q1:SubmissionDetailsType"
xmlns:q1="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/shortdocumentsubscription/types"/>
    </xs:sequence>
    <xs:attribute name="SubmissionTransactionCount" type="xs:integer"/>
  </xs:complexType>
  <xs:complexType name="SubscriptionReplayTransactionMessageType">
    <xs:attribute name="SubmissionIdentifier" type="xs:string"/>
    <xs:attribute name="TransactionIdentifier" type="xs:string"/>
    <xs:attribute name="TransactionDateTime" type="xs:dateTime" use="required"/>
  </xs:complexType>
</xs:schema>
```

ShortDocumentSubscriptionService_2.xsd

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema elementFormDefault="qualified"
targetNamespace="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/shortdocumentsubscription/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:tns="http://emma.msrb.org/schemas/shortdocumentsubscriptionmessages/shortdocumentsubscription/types">
  <xs:complexType name="SubmissionDetailsType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="Securities" type="tns:SecuritiesDetailsType"/>
      <xs:element minOccurs="0" maxOccurs="1" name="Document" type="tns:DocumentDetailsType"/>
    </xs:sequence>
    <xs:attribute name="SubmissionIdentifier" type="tns:Max25Text" use="required"/>
    <xs:attribute name="TransactionIdentifier" type="tns:Max25Text" use="required"/>
    <xs:attribute name="SubmissionStatus" type="tns:SubmissionStatusType"/>
    <xs:attribute name="SubmissionTransactionDateTime" type="tns:ISODatetime"/>
  </xs:complexType>
  <xs:complexType name="SecuritiesDetailsType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="Security" type="tns:SecurityDetailsType"/>
    </xs:sequence>
    <xs:attribute name="InstrumentType" type="tns:InstrumentType"/>
  </xs:complexType>
  <xs:complexType name="SecurityDetailsType">
    <xs:attribute name="CUSIP9" type="tns:Cusip9Type"/>
  </xs:complexType>
  <xs:simpleType name="InstrumentType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="ARS"/>
      <xs:enumeration value="VRDO"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="DocumentDetailsType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="UnderlyingFiles" type="tns:UnderlyingFilesType"/>
    </xs:sequence>
    <xs:attribute name="DocumentType" type="tns:DocumentType"/>
  </xs:complexType>
</xs:schema>
```



```

<xs:attribute name="TransitionPeriodFlag" type="tns:TransitionPeriodFlagType"/>
<xs:attribute name="DocumentRequiredToBeSubmittedIsNotAvailableFlag" type="tns:DocumentRequiredToBeSubmittedIsNotAvailableFlagType"/>
</xs:complexType>
<xs:complexType name="UnderlyingFilesType">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="File" type="tns:FileDetailsType" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="FileDetailsType">
  <xs:attribute name="DocumentReceivedDate" type="tns:ISODate"/>
  <xs:attribute name="FileIdentifier" type="tns:Max25Text"/>
  <xs:attribute name="FileStatus" type="tns:DocumentStatusType"/>
  <xs:attribute name="FileStatusDate" type="tns:ISODate"/>
</xs:complexType>
<xs:simpleType name="DocumentStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Current"/>
    <xs:enumeration value="Archived"/>
    <xs:enumeration value="Removed"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="LettersOfCredit"/>
    <xs:enumeration value="StandbyBondPurchaseAgreements"/>
    <xs:enumeration value="OtherDocumentThatEstablishesAnObligationToProvideLiquidity"/>
    <xs:enumeration value="DocumentThatDefinesCurrentAuctionProceduresAndInterestRateSettingMechanisms"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="TransitionPeriodFlagType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Yes"/>
    <xs:enumeration value="No"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="DocumentRequiredToBeSubmittedIsNotAvailableFlagType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="True"/>

```

```

    <xs:enumeration value="False"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SubmissionStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Publish"/>
    <xs:enumeration value="Cancel"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Cusip6Type">
  <xs:restriction base="xs:string">
    <xs:minLength value="6"/>
    <xs:maxLength value="6"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Cusip9Type">
  <xs:restriction base="xs:string">
    <xs:minLength value="9"/>
    <xs:maxLength value="9"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="StateCode">
  <xs:restriction base="xs:string">
    <xs:pattern value="[A-Z]{2,2}"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max140Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="140"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max75Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="75"/>
  </xs:restriction>
</xs:simpleType>

```

```
<xs:simpleType name="Max50Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="50"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max25Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="25"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max15Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="15"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="Max6Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="6"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ISODate">
  <xs:restriction base="xs:date"/>
</xs:simpleType>
<xs:simpleType name="ISODateTime">
  <xs:restriction base="xs:dateTime"/>
</xs:simpleType>
</xs:schema>
```

Figure 3: Data Tab Glossary

Data Tag Glossary

Set forth below is a glossary of all data tags to be used in the SHORT document subscription service, which is the format used for the historical product. These data elements are organized in a hierarchical data relationship. The glossary sets out each data element’s XML container, data tag, definition and data specifications, including a listing of enumerated values for those data elements where the submitter chooses a value and an example of the data format where the submitter enters a value.

Subscription Data Tags Description and Specification Short Document Subscription Service			
XML Container	Data Tag	Definition	Data Specification
Submission	Submission Identifier	Unique identifier assigned by the SHORT System at time of initiation of submission (the initial submission event) and used by the submitter in connection with subsequent submission events	Max25Text ex: S212345678910
	Submission Status	Indicates the intention to publish the information in the EMMA public portal	Enumerated Value: <ul style="list-style-type: none"> • Publish • Cancel • Test
	Transaction Identifier	EMMA-assigned transaction identifier for each submission event registered in EMMA	Max25Text ex: AS212345678
	Submission Transaction Date Time	Indicates the date and time the submission event was registered in EMMA	CCYY-MM-DDT00:00:00 ex: 2008-12-01T13:30:00
	Submission Transaction Count	Indicates number of submissions in data message	Integer ex: 200

XML Container	Data Tag	Definition	Data Specification
Securities	Instrument Type	Indicates the type of security being reported as either Auction Rate Security (ARS) or Variable Rate Demand Obligation (VRDO)	Enumerated Value: <ul style="list-style-type: none"> • ARS • VRDO
	Security	Indicates the nine-digit CUSIP number(s) to which the document applies	CUSIP9 String{Min9,Max9} ex: 123456AB7
Document	Document Type	Indicates type of document being submitted	Enumerated Value: (VRDO) <ul style="list-style-type: none"> • LettersOfCredit • StandbyBondPurchaseAgreements • OtherDocumentThatEstablishesAnObligationToProvideLiquidity Enumerated Value: (ARS) <ul style="list-style-type: none"> • DocumentThatDefinesCurrentAuctionProceduresAndInterestRateSettingMechanisms
	Document Required To Be Submitted Is Not Available Flag	For VRDO issues, an affirmative indication that a document required to be submitted is not available for submission notwithstanding the submitter's best efforts to obtain such document. Note, only applicable to submissions of "transition period" documents, described below.	Enumerated Value: <ul style="list-style-type: none"> • True • False
	Transition Period Flag	Indication that a submission is being made pursuant to notice 2010-31 rule provision to provide documents for existing programs and issues as follows: For existing ARS programs, dealers will be required to submit the current versions of ARS documents defining current auction procedures and interest rate setting mechanisms to the SHORT System within ninety days after the effective date of the rule change. For existing VRDO issues, dealers will be required to undertake and document best efforts to obtain current versions of VRDO liquidity facility documents, including Letters of Credit, Stand-by Bond Purchase Agreements and any other document that establishes an obligation to provide liquidity, and submit such documents to the SHORT System within ninety days after the effective date of the proposed rule change.	Enumerated Value: <ul style="list-style-type: none"> • Yes • No
File	File Identifier	Unique identifier assigned by the SHORT System at time of submission and any subsequent modifications to the submission	Max25Text ex: S212345678910
	Document Receive Date	Date that the document was received NOTE: This value is not applicable for documents submitted pursuant to the transition period, described above.	CCYY-MM-DD ex: 2008-12-08

XML Container	Data Tag	Definition	Data Specification
File	File Status	Indication of the active state of a file	Enumerated Value: <ul style="list-style-type: none"> • Current • Archived • Removed
	File Status Date	Indicates the date the file status was acquired	CCYY-MM-DD ex: 2008-12-08

Figure 4: Sample XML Messages

Document Message (Open Submission – Transition Period = No)

```
<?xml version="1.0" encoding="UTF-8"?>
<SubscriptionDataMessage xmlns="EMMA-SUBMISSION-XML" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="EMMA-
SUBMISSION-XML C:\EMMA\EMMA_B2B\Schema\SHORT\Documents\Subscription\EMMA_SHORT_Document_Subscription_Schema.xsd">
  <Submission SubmissionStatus="Publish" SubmissionIdentifier="ER12345" TransactionIdentifier="ER12345"
    SubmissionTransactionDateTime="2011-03-15T00:00:00" >
    <Securities InstrumentType="VRDO">
      <Security CUSIP9="699438AJ7"/>
      <Security CUSIP9="699438AK4"/>
    </Securities>
    <Document DocumentType="LettersOfCredit" TransitionPeriodFlag="No">
      <UnderlyingFiles>
        <File FileIdentifier="EA123456" FileStatus="Current" FileStatusDate="2011-03-15"
          DocumentReceivedDate="2011-03-01" />
      </UnderlyingFiles>
    </Document>
  </Submission>
</SubscriptionDataMessage>
```

Document Message (Open Submission – Transition Period = Yes and Document Not Available)

```
<?xml version="1.0" encoding="UTF-8"?>
<SubscriptionDataMessage xmlns="EMMA-SUBMISSION-XML" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="EMMA-
SUBMISSION-XML C:\EMMA\EMMA_B2B\Schema\SHORT\Documents\Subscription\EMMA_SHORT_Document_Subscription_Schema.xsd">
  <Submission SubmissionStatus="Publish" SubmissionIdentifier="ER12345" TransactionIdentifier="ER12345"
    SubmissionTransactionDateTime="2011-03-15T00:00:00" >
    <Securities InstrumentType="VRDO">
      <Security CUSIP9="699438AJ7"/>
      <Security CUSIP9="699438AK4"/>
    </Securities>
    <Document DocumentType="LettersOfCredit" TransitionPeriodFlag="Yes" DocumentRequiredToBeSubmittedIsNotAvailableFlag="True">
    </Document>
  </Submission>
</SubscriptionDataMessage>
```

Part II: Specifications for the Short Historical Data Product

Data Delivery

The SHORT Historical Data Product will provide XML files of data submitted to the SHORT disclosure service.

Figure 5 shows the hierarchical structure and relationship of data stored on the historical product storage device. Historical data are available on a storage device with the data files organized in a hierarchically directory based on the date the data was published (e.g., PublishDateTime ex: "2008-03-20T00:00:00").

Overview Schemas and Data Tags

This section refers to a series of figures and tables providing more detailed information about the SHORT Historical Data Product. An XML data schema and a type definition schema are included in **Figure 6** and **Figure 7**. A data tag glossary is provided in **Figure 8**.

Data Message

Data elements to be delivered through the SHORT Historical Data Product are identical in format to the current format of the real-time service. As such, the data will be organized in a hierarchical relationship into the following categories: (i) Response Message Header; (ii) Subscriber Request Details; (iii) Query Status; (iv) Result Set; (v) Result; (vi) Transaction; (vii) Instrument; and (viii) Rate Information. These categories, and the available data tags applicable to each category, are included in **Figure 8** and are also summarized below:

- **Response Message Header**
 - i) Response Message ID (Unique identifier assigned by SHORT at the time of message generation)
 - ii) response message time stamp (All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.)
- **Subscriber Request Details**
 - i) Subscriber Message Time Stamp (All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.)
 - ii) Information Type (Generally a response will relate to reset rate / liquidity information, but may eventually include bidding information.)

- iii) Query – From Seq Num (The beginning sequence number submitted by the subscriber to initiate a query response message.)
- **Query Status**
 - i) Result Code (A status code of the query in response to a subscriber request.)
 - ii) Result Message (A status message of the query in response to a subscriber request. Used to indicate request or system status (i.e., request processed successfully or an exception is being reported such as system busy).)
- **Result Set**
 - i) Seq Num (An incremental system generated sequence number assigned to each reported transaction included in the response message beginning with the FromSeqNum sequentially indexing to the final transaction.)
- **Result**
 - i) Result Code (A transaction status code in response to a subscriber request.)
 - ii) Result Message (A status message of the transaction in response to a subscriber request. Used to indicate transaction level status (i.e., request processed successfully).)
- **Transaction**
 - i) Transaction Type (Dealer supplied transaction type indications that may from time-to-time include modification or cancellation notifications.)
 - ii) Publish Date Time (All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.)
 - iii) Dealer Names (The identity of the ARS Program Dealer(s) or VRDO Remarketing Agent.)
 - iv) AVTSCtrlNum (Unique identifier uses to tie transactions together in the case of modify or cancel.)
- **Instrument**
 - i) CUSIP9 (CUSIP Number for the ARS or VRDO)
 - ii) Instrument Type (Indication of whether the security is an ARS or VRDO.)
- **Rate Information**
 - i) Interest Rate Reset Date Time (ARS - Date time that the ARS auction occurred. All times are Eastern Time (ET) and in military format., or VRDO - Date time that the VRDO interest rate reset was determined. All times are Eastern Time (ET) and in military format.)
 - ii) Interest Rate Period (Number of calendar days that the interest rate produced is applicable.)
 - iii) Interest Rate Posting Date Time (ARS (only) - Date Time that the ARS auction results were communicated to ARS Program Dealers. All times are Eastern Time and in military format.)
 - iv) Effective Date of Interest Rate (VRDO (only) – Effective date that the interest rate reset is applicable)
 - v) Interest Rate (Interest rate, in percent.)
 - vi) Min Denomination (Minimum allowable transaction size, in par amount.)
 - vii) Rate Type (ARS - Indication of whether the interest rate submitted represents a maximum rate (M), all hold rate (H), or an interest rate set by the auction process (A); or VRDO - Indication of whether the interest rate submitted represents a maximum rate (M), a rate that was set by a formula (F), or a rate that was set by the VRDO Remarketing Agent (R))
 - viii) Par Amount Auctioned (ARS (only) - Par amount auctioned not including hold orders effective at any interest rate. The par amount auctioned is commonly referred to in results of an auction communicated to Program Dealers by Auction Agents as the “accepted sells” or the “executed sells.”)
 - ix) Min Rate (ARS - Minimum interest rate, in percent, applicable at the time of the auction or if such minimum interest rate is not able to be calculated, an indication that such rate is not calculable (NC); or VRDO - Minimum interest rate, in percent, applicable at the time of the interest rate or if such minimum interest rate is not able to be calculated, an indication that such rate is not calculable (NC).)
 - x) Max Rate (ARS - Maximum interest rate, in percent, applicable at the time of the auction or if such maximum interest rate is not able to be calculated, an indication that such rate is not

- calculable (NC); or VRDO - Maximum interest rate, in percent, applicable at the time of the interest rate reset or if such maximum interest rate is not able to be calculated, an indication that such rate is not calculable (NC.)
- xi) Par Amount Remarketed (VRDO (only) - Par amount of the VRDO held by a party other than the VRDO Remarketing Agent. (This data element is reserved for future use.))
 - xii) Notification Period (VRDO (only) - Number of calendar days that may lapse between a holder of a VRDO tendering its security and a liquidity provider purchasing the tendered security in the event that the Remarketing Agent is unable to remarket the tendered security.)
 - xiii) Liquidity Facility Type (VRDO (only) - For each liquidity facility applicable to the VRDO, an indication of whether each is a standby bond purchase agreement (P) or letter of credit (L).)
 - xiv) Liquidity Facility Expire Date (VRDO (only) - The expiration date of each liquidity facility applicable to the VRDO.)
 - xv) Identify of Liquidity Provider (VRDOs (only) - For each liquidity facility applicable to the VRDO, the identity of the liquidity provider. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.)
 - xvi) Aggregate Par Amount – Bank Bond (VRDOs (only) - Par amount of the VRDO, if any, held by liquidity providers (as a “Bank Bond”). This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.)
 - xvii) Aggregate Par Amount – Investors and Remarketing Agent (VRDOs (only) - Par amount of the VRDO, if any, held by parties other than a liquidity provider, which represents the aggregate par amounts held by the VRDO Remarketing Agent and by investors. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.)
 - xviii) Identity of Tender Agent (VRDOs (only) - For each tender agent applicable to the VRDO, the identity of the tender agent. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.)
 - xix) Order Type (ARS (only) - Indication of whether an order is an order to buy, sell or hold at rate.)
 - xx) Order Interest Rate (ARS (only) - For orders to buy or hold at rate, the interest rate associated with such orders.)
 - xxi) Order Entity (ARS (only) - Indication of whether an order placed or that was filled is for an investor, program dealer for its own account or issuer/conduit borrower of the ARS.)
 - xxii) Order Par Amount (ARS (only) - The aggregate par amount submitted to the auction for each order type, interest rate for buy and hold at rate orders, and order entity.)
 - xxiii) Filled Par Amount (ARS (only) - The aggregate par amount filled as a result of the auction for each order type, interest rate for buy and hold at rate orders and order entity.)
 - xxiv) Bid to Cover Ratio (ARS (only) - Ratio of the aggregate par amount of securities bid for the aggregate par amount of securities offered in an auction.)



SHORT Data Historical Product Specification Figures

- Figure 5: Storage of Information..... 28
- Figure 6: Data Message Schémas..... 30
- Figure 7: XML Message Schemas..... 32
- Figure 8: Data Tab Glossary..... 52
- Figure 9: Sample XML Messages..... 56

Figure 5: Storage of Information

Reset Data Hierarchical Profile

Indexing data and document files are hierarchically arranged on the storage device by the year (YYYY) then by the month (MM) and the day (DD).

- The “Reset Data” directory contains XML files uniquely named by their transaction ID (e.g., “EP7891023.xml”).

Some submissions have multiple submission events (“transactions”) because the submitter returned and modified the original submission one or more times. Each transaction is recorded in a separate XML file in the “Reset Data” directory. Multiple transactions for the same submission will share the same value in the “SubmissionIdentifier” field.

Where multiple transactions exist for a single submission, the most recent transaction will contain the complete, up-to-date information and the earlier transactions can be discarded or overwritten completely. The “SubmissionTransactionDateTime” field can be used to determine which XML file contains the transaction with the most recent transaction for that submission.

Some dates in the “Reset Data” directories will not be populated with XML files, documents, or both due to submissions not being received on that date.

SHORT Data

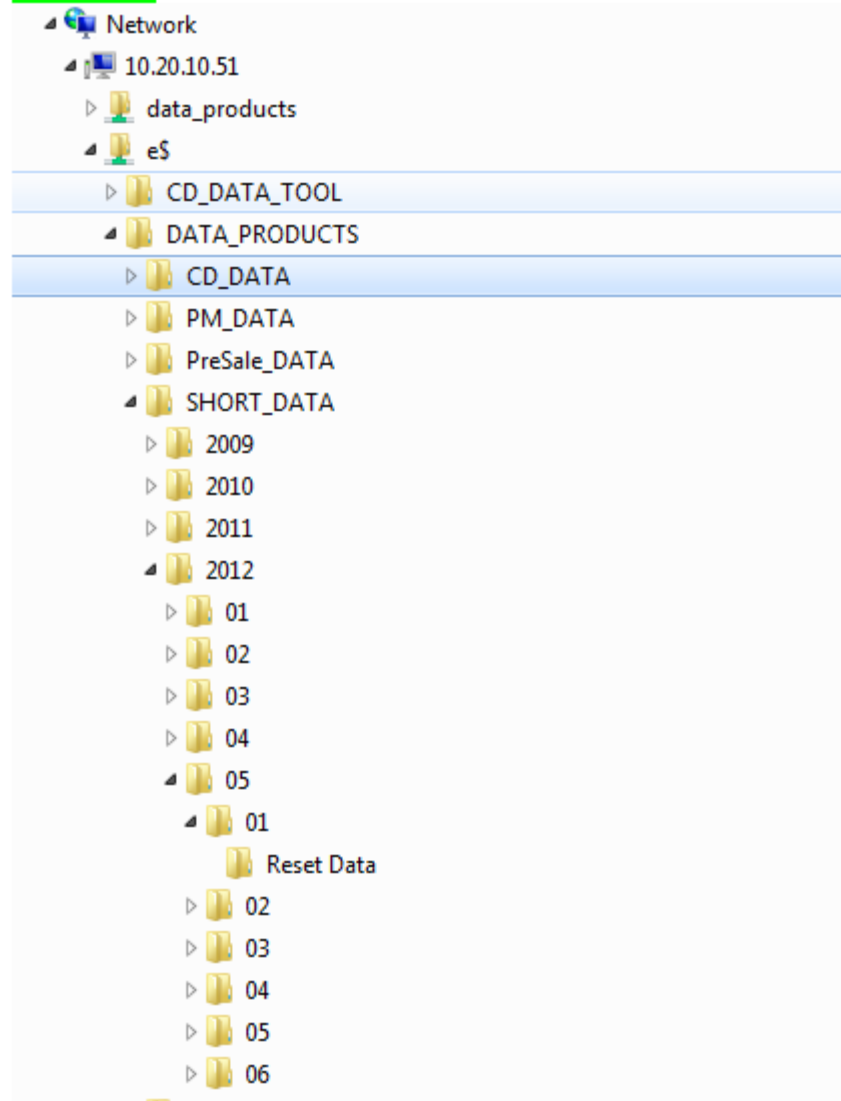
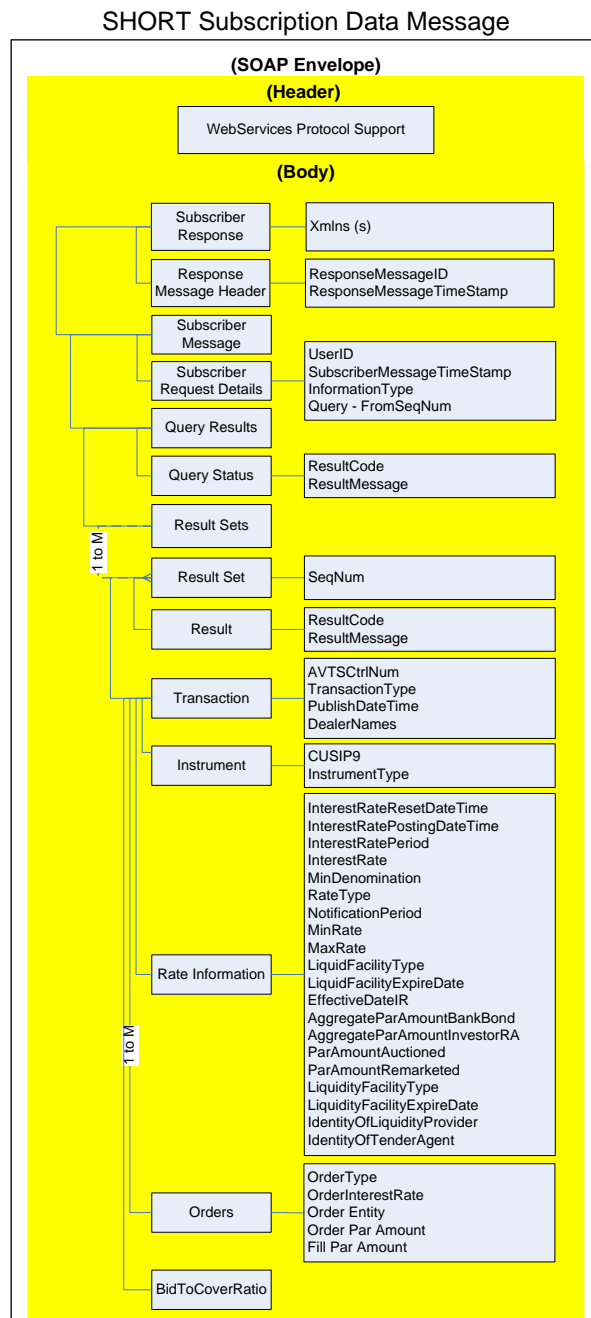


Figure 6: Data Message Schémas

Data Tag Mapping & Type Definition Schemas

Set forth below is a schema model showing the subscription data message structure. The historical product uses the same structure.



SOAP (Simple Object Access Protocol) - foundation layer of the web services protocol stack

Shown below is a sample subscription data message depicting its general structure. The historical product uses the same message structure.

SHORT Subscription Data Message



SOAP (Simple Object Access Protocol) - foundation layer of the web services protocol stack

Figure 7: XML Message Schemas

XML Message Schemas


SubscriberRequest.xsd

```
<?xml version="1.0"?>
<xsd:schema elementFormDefault="qualified"
  xmlns="http://www.msrb.org/avts/subscriber"
  xmlns:avts="http://www.msrb.org/avts/common"
  targetNamespace="http://www.msrb.org/avts/subscriber"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <xsd:import namespace="http://www.msrb.org/avts/common"
    schemaLocation="Common.xsd" />

  <xsd:element name="SubscriberRequest">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="Subscriber"
          type="MSRBSubscriber" />
        <xsd:element ref="Query" />
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

  <xsd:complexType name="MSRBSubscriber">
    <xsd:complexContent>
      <xsd:extension base="avts:Subscriber">
        <xsd:sequence>
          <xsd:element ref="avts:Password" />
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
</xsd:schema>
```

```
</xsd:complexType>
<xsd:element name="Query">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="FromSeqNum" type="avts:FromSeqNum"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:schema>
```

SubscriberResponse.xsd

```
<xsd:schema xmlns="http://www.msrb.org/avts/subscriber_response"
  xmlns:avts="http://www.msrb.org/avts/common"
  xmlns:submitter="http://www.msrb.org/avts/submitter"
  elementFormDefault="qualified"
  targetNamespace="http://www.msrb.org/avts/subscriber_response"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <xsd:import namespace="http://www.msrb.org/avts/common"
    schemaLocation="Common.xsd" />

  <xsd:import namespace="http://www.msrb.org/avts/submitter"
    schemaLocation="SubmitterInput.xsd" />

  <xsd:complexType name="SubscriberRequestDetails">
    <xsd:complexContent>
      <xsd:extension base="avts:Subscriber">
        <xsd:sequence>
          <xsd:element ref="Query" />
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:element name="SubscriberMessage">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="SubscriberRequestDetails"
          type="SubscriberRequestDetails" />
        <xsd:element ref="QueryResults" />
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

  <xsd:element name="QueryResults">
    <xsd:complexType>
```

```

        <xsd:sequence>
            <xsd:element name="QueryStatus" type="avts:Result" />
            <xsd:element ref="ResultSets" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="ResultSets">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element minOccurs="0" maxOccurs="unbounded"
                name="ResultSet" type="ResultSet" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:complexType name="ResultSet">
    <xsd:sequence>
        <xsd:element name="Result" type="avts:Result" />
        <xsd:element name="Transaction"
            type="PublishedTransaction" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="SeqNum" type="avts:FromSeqNum"
        use="required" />
</xsd:complexType>

<xsd:element name="DealerNames">
<!-- If there are no transactions, DealerNames could be empty -->
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element minOccurs="0" maxOccurs="unbounded"
                ref="avts:DealerMSRBName" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:complexType name="PublishedTransaction">
    <xsd:sequence>

```

```

    <xsd:element name="TransactionType"
      type="avts:TransactionType" />
    <xsd:element name="Instrument" type="avts:Instrument" />
    <xsd:element name="PublishDateTime" type="avts:BasicDateTime" />
    <xsd:element ref="DealerNames" />
    <xsd:element ref="submitter:RateInformation" />
    <xsd:element ref="submitter:Orders" minOccurs="0" maxOccurs="1" />
    <xsd:element name="BidToCoverRatio" type="xsd:decimal" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="AVTSCtrlNum" type="avts:AVTSCtrlNum"
    use="required" />
</xsd:complexType>

<xsd:element name="Query">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="FromSeqNum" type="avts:FromSeqNum" />
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

<xsd:element name="SubscriberResponse">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="ResponseMessageHeader"
        type="avts:ResponseMessageHeader" />
      <xsd:element ref="SubscriberMessage" />
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

</xsd:schema>

```

Common.xsd

```
<xsd:schema elementFormDefault="qualified"
  targetNamespace="http://www.msrb.org/avts/common"
  xmlns="http://www.msrb.org/avts/common"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:jaxb="http://java.sun.com/xml/ns/jaxb"
  xmlns:xjc="http://java.sun.com/xml/ns/jaxb/xjc"
  jaxb:extensionBindingPrefixes="xjc" jaxb:version="1.0">

  <xsd:annotation>
    <xsd:appinfo>
      <jaxb:globalBindings>
        <xjc:serializable />
      </jaxb:globalBindings>
    </xsd:appinfo>
  </xsd:annotation>

  <xsd:element name="DealerMSRBNum">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:pattern value="[a-zA-Z0-9]*" />
        <xsd:minLength value="5" />
        <xsd:maxLength value="15" />
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>

  <xsd:element name="DealerMSRBName">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:pattern value="[a-zA-Z0-9,.;]*" />
        <xsd:minLength value="5" />
        <xsd:maxLength value="90" />
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
```

```

<xsd:complexType name="AVTSUser">
  <xsd:sequence>
    <xsd:element name="UserID" type="UserID" />
    <xsd:element ref="Password" />
  </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="UserID">
  <xsd:restriction base="xsd:string">
    <xsd:minLength value="3" />
    <xsd:maxLength value="15" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="Period">
  <xsd:restriction base="xsd:integer">
    <xsd:minInclusive value="0" />
    <xsd:maxInclusive value="999" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="Rate">
  <xsd:restriction base="xsd:decimal">
    <xsd:pattern value="[0-9]{1,2}\.[0-9]{1,3}" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:element name="Password">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:minLength value="8" />
      <xsd:maxLength value="50" />
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>

<xsd:simpleType name="SubmissionCtrlNum">

```

```

    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[a-zA-Z0-9]{16}" />
      <xsd:minLength value="16" />
      <xsd:maxLength value="16" />
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="AVTSCtrlNum">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[a-zA-Z0-9]{16}" />
      <xsd:minLength value="16" />
      <xsd:maxLength value="16" />
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="InformationType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="ResetRate/Liquidity" />
      <xsd:enumeration value="Bidding" />
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="InstrumentType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="A" />
      <xsd:enumeration value="V" />
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:element name="CUSIP9">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:pattern value="[a-zA-Z0-9]{9}" />
        <xsd:minLength value="9" />
        <xsd:maxLength value="9" />
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>

```

```

<xsd:complexType name="Instrument">
  <xsd:sequence>
    <xsd:element ref="CUSIP9" />
    <xsd:element name="InstrumentType" type="InstrumentType" />
  </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="BasicTime">
  <xsd:restriction base="xsd:string">
    <xsd:pattern
      value="(0[0-9]|[1-5][0-9]):(0[0-9]|[1-5][0-9]):(0[0-9]|[1-5][0-9])" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="BasicDate">
  <xsd:restriction base="xsd:string">
    <xsd:pattern
      value="(19|20)\d\d-(0[1-9]|1[012])-(0[1-9]|[12][0-9]|3[01])" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="BasicDateTime">
  <xsd:sequence>
    <xsd:annotation>
      <xsd:documentation>
        All Dates will be in EST. Date and Time fields have
        been broken up into components so that Timezone is
        not used.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:element name="Date" type="BasicDate" />
    <xsd:element name="Time" type="BasicTime" />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="InterestRateResetDateTime">
  <xsd:complexContent>

```



```

        <xsd:extension base="BasicDateTime" />
    </xsd:complexContent>
</xsd:complexType>

<xsd:complexType name="MessageTimeStamp">
    <xsd:complexContent>
        <xsd:extension base="BasicDateTime" />
    </xsd:complexContent>
</xsd:complexType>

<xsd:simpleType name="TransactionType">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="I" />
        <xsd:enumeration value="M" />
        <xsd:enumeration value="C" />
    </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="Submitter">
    <xsd:sequence>
        <xsd:element name="UserID" type="UserID" />
        <xsd:element name="SubmitterMessageTimeStamp"
            type="MessageTimeStamp" />
        <xsd:element name="SubmissionCtrlNum"
            type="SubmissionCtrlNum" />
        <xsd:element name="InformationType" type="InformationType" />
    </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="FromSeqNum">
    <xsd:restriction base="xsd:string">
        <xsd:pattern value="[0-9]{16}" />
        <xsd:minLength value="16" />
        <xsd:maxLength value="16" />
    </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="Subscriber">

```

```

    <xsd:sequence>
      <xsd:element name="UserID" type="UserID" />
      <xsd:element name="SubscriberMessageTimeStamp"
        type="MessageTimeStamp" />
      <xsd:element name="InformationType" type="InformationType" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="Results">
    <xsd:sequence>
      <xsd:element minOccurs="1" maxOccurs="unbounded"
        name="Result" type="Result" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:complexType name="Result">
    <xsd:sequence>
      <xsd:element name="ResultCode">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:pattern value="[0-9,A-Z]{4}" />
            <xsd:minLength value="4" />
            <xsd:maxLength value="4" />
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="ResultMessage" type="xsd:string" />
    </xsd:sequence>
  </xsd:complexType>

  <xsd:simpleType name="MessageID">
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[0-9]{10}" />
      <xsd:minLength value="10" />
      <xsd:maxLength value="10" />
    </xsd:restriction>
  </xsd:simpleType>

```

```

<xsd:complexType name="ResponseMessageHeader">
  <xsd:sequence>
    <xsd:element name="ResponseMessageID" type="MessageID" />
    <xsd:element name="ResponseMessageTimeStamp"
      type="BasicDateTime" />
  </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="RateType">
  <xsd:annotation>
    <xsd:documentation>
      ARS M – Max Rate H – All Hold Rate A – Set by Auction
      VRDO M – Max Rate F – Set by Formula R – Set by Agent
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="M" />
    <xsd:enumeration value="H" />
    <xsd:enumeration value="A" />
    <xsd:enumeration value="F" />
    <xsd:enumeration value="R" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="LiquidityFacilityType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="P" />
    <xsd:enumeration value="L" />
    <xsd:enumeration value="S" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="AggregateParAmountBankBondType">
  <xsd:restriction base="xsd:decimal">
    <xsd:pattern value="[0-9]*" />
    <xsd:minInclusive value="0"/>
    <xsd:totalDigits value="10" />
  </xsd:restriction>

```

```
</xsd:simpleType>


<xsd:simpleType name="AggregateParAmountInvestorRAType">
  <xsd:restriction base="xsd:decimal">
    <xsd:minInclusive value="-999999999"/>
    <xsd:totalDigits value="10" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="IdentityOfLiquidityProviderType">
  <xsd:restriction base="xsd:string">
    <xsd:minLength value="1" />
    <xsd:maxLength value="90" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="IdentityOfTenderAgentType">
  <xsd:restriction base="xsd:string">
    <xsd:minLength value="1" />
    <xsd:maxLength value="90" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="OrderType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="B" />
    <xsd:enumeration value="O" />
    <xsd:enumeration value="S" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="OrderEntity">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="I" />
    <xsd:enumeration value="P" />
    <xsd:enumeration value="C" />
  </xsd:restriction>
</xsd:simpleType>
```



```
<xsd:simpleType name="OrderParAmountType">
  <xsd:restriction base="xsd:decimal">
    <xsd:pattern value="[0-9]*" />
    <xsd:minInclusive value="0"/>
    <xsd:totalDigits value="10" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="FilledParAmountType">
  <xsd:restriction base="xsd:decimal">
    <xsd:pattern value="[0-9]*" />
    <xsd:minInclusive value="0"/>
    <xsd:totalDigits value="10" />
  </xsd:restriction>
</xsd:simpleType>

</xsd:schema>
```

SubmitterInput.xsd

```
<?xml version="1.0" encoding="utf-8"?>
<xsd:schema elementFormDefault="qualified"
  xmlns:avts="http://www.msrb.org/avts/common"
  xmlns="http://www.msrb.org/avts/submitter"
  targetNamespace="http://www.msrb.org/avts/submitter"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <xsd:import namespace="http://www.msrb.org/avts/common"
    schemaLocation="Common.xsd" />

  <xsd:element name="SubmitterInput">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="Submitter" type="MSRBSubmitter" />
        <xsd:element name="Transactions" type="Transactions" />
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

  <xsd:complexType name="MSRBSubmitter">
    <xsd:complexContent>
      <xsd:extension base="avts:Submitter">
        <xsd:sequence>
          <xsd:element ref="avts:Password" />
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>

  <xsd:element name="Dealers">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element minOccurs="1" maxOccurs="unbounded"
          ref="avts:DealerMSRBNum" />
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
</xsd:schema>
```

```

    </xsd:complexType>
</xsd:element>

<xsd:element name="InterestRate" type="avts:Rate" />

<xsd:simpleType name="RateTypeNC">
  <xsd:union>
    <xsd:simpleType>
      <xsd:restriction base="avts:Rate" />
    </xsd:simpleType>
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="NC" />
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:union>
</xsd:simpleType>

<xsd:simpleType name="MinDenomination">
  <xsd:restriction base="xsd:decimal">
    <xsd:minInclusive value="0"/>
    <xsd:totalDigits value="9" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="InterestRatePeriod">
  <xsd:restriction base="avts:Period" />
</xsd:simpleType>

<xsd:simpleType name="NotificationPeriod">
  <xsd:restriction base="avts:Period" />
</xsd:simpleType>

<xsd:complexType name="InterestRatePostingDateTime">
  <xsd:complexContent>
    <xsd:extension base="avts:BasicDateTime" />
  </xsd:complexContent>
</xsd:complexType>

```

```

<xsd:simpleType name="ParAmountAuctioned">
  <xsd:restriction base="xsd:decimal">
    <xsd:minInclusive value="0" />
    <xsd:totalDigits value="10" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:simpleType name="ParAmountRemarketed">
  <xsd:restriction base="xsd:decimal">
    <xsd:minInclusive value="0" />
    <xsd:totalDigits value="10" />
  </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="Transactions">
  <xsd:sequence>
    <xsd:element minOccurs="1" maxOccurs="unbounded"
      name="Transaction" type="Transaction" />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="Transaction">
  <xsd:sequence>
    <xsd:element name="TransactionType"
      type="avts:TransactionType" />
    <xsd:element name="Instrument" type="avts:Instrument" />
    <xsd:element ref="Dealers" />
    <xsd:element ref="RateInformation" />
    <xsd:element ref="Orders" minOccurs="0" maxOccurs="1" />
  </xsd:sequence>
</xsd:complexType>

<xsd:element name="LiquidityFacilityExpireDate"
  type="avts:BasicDate" />

<xsd:element name="TenderAgent">
  <xsd:complexType>

```



```

        <xsd:sequence>
            <xsd:element name="IdentityOfTenderAgent"
                type="avts:IdentityOfTenderAgentType" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="Order">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="OrderType" type="avts:OrderType" minOccurs="0" maxOccurs="1" />
            <xsd:element name="OrderInterestRate" type="avts:Rate" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="OrderEntity" type="avts:OrderEntity" />
            <xsd:element name="OrderParAmount" type="avts:OrderParAmountType" />
            <xsd:element name="FilledParAmount" type="avts:FilledParAmountType" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="LiquidityFacility">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="LiquidityFacilityType"
                type="avts:LiquidityFacilityType" />
            <xsd:element ref="LiquidityFacilityExpireDate" />
            <xsd:element name="IdentityOfLiquidityProvider" type="avts:IdentityOfLiquidityProviderType" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

<xsd:element name="LiquidityFacilities">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element minOccurs="0" maxOccurs="unbounded"
                ref="LiquidityFacility" />
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

<xsd:element name="Orders">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element minOccurs="0" maxOccurs="unbounded"
        ref="Order" />
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

<xsd:element name="TenderAgents">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element minOccurs="1" maxOccurs="unbounded"
        ref="TenderAgent" />
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

<xsd:element name="RateInformation">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="InterestRateResetDateTime"
        type="avts:InterestRateResetDateTime" />
      <xsd:element name="InterestRatePeriod"
        type="InterestRatePeriod" />
      <xsd:choice>
        <xsd:element name="NotificationPeriod" type="NotificationPeriod" />
        <xsd:element name="InterestRatePostingDateTime"
          type="InterestRatePostingDateTime" />
      </xsd:choice>
      <xsd:element ref="InterestRate" />
      <xsd:element name="EffectiveDateIR" type="avts:BasicDate" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="AggregateParAmountBankBond" type="avts:AggregateParAmountBankBondType" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="AggregateParAmountInvestorRA" type="avts:AggregateParAmountInvestorRAType" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="MinDenomination" type="MinDenomination"/>
      <xsd:element name="RateType" type="avts:RateType" />

```

```
<xsd:element minOccurs="0" maxOccurs="1"
  name="ParAmountAuctioned" type="ParAmountAuctioned"/>
<xsd:element minOccurs="0" maxOccurs="1"
  name="ParAmountRemarketed" type="ParAmountRemarketed"/>
<xsd:element minOccurs="0" maxOccurs="1" name="MinRate"
  type="RateTypeNC" />
<xsd:element minOccurs="0" maxOccurs="1" name="MaxRate"
  type="RateTypeNC" />
<xsd:element minOccurs="0" maxOccurs="1"
  ref="LiquidityFacilities" />
<xsd:element minOccurs="0" maxOccurs="1" ref="TenderAgents" />
  </xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:schema>
```

Figure 8: Data Tab Glossary

Data Tag Glossary

This section sets forth the data elements that are used in connection with the XML interface for the SHORT System. The historical product uses many of the same data elements. The order of the data elements in these tables does not necessarily represent the order of the fields in the XML-formatted file.

XML Container	Data Tag	Definition	Data Specification
Response Message Header	Response Message ID	Unique identifier assigned by SHORT at the time of message generation	String{Min10,Max10} ex : 0001909931
	Response Message Time Stamp	All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.	Date – yyyy-mm-dd ex: 2010-04-27 Time – hh24:mi:ss ex: 15:00:00
Subscriber Request Details	User ID	Unique identifier assigned by MSRB	String{Min3,Max15}
	Subscriber Message Time Stamp	All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.	Date – yyyy-mm-dd ex: 2010-04-27 Time – hh24:mi:ss ex: 15:00:00
	Information Type	Generally a response will relate to reset rate / liquidity information, but may eventually include bidding information.	Enumerated Value: • ResetRate/Liquidity • Bidding
	Query – From Seq Num	The beginning sequence number submitted by the subscriber to initiate a query response message.	String{Min16,Max16} Ex : 0000000000000001
Query Status	Result Code	A status code of the query in response to a subscriber request.	String{Min4,Max4} Ex : S001
	Result Message	A status message of the query in response to a subscriber request. Used to indicate request or system status (i.e., request processed successfully or an exception is being reported such as system busy).	String ex: 100 Transaction(s) Included
Result Set	Seq Num	An incremental system generated sequence number assigned to each reported transaction included in the response message beginning with the FromSeqNum sequentially indexing to the final transaction.	String{Min16,Max16} Ex : 0000000000001100
Result	Result Code	A transaction status code in response to a subscriber request.	String{Min4,Max4} Ex : S001
	Result Message	A status message of the transaction in response to a subscriber request. Used to indicate transaction level status (i.e., request processed successfully).	String ex: Success: Transaction retrieved

XML Container	Data Tag	Definition	Data Specification
Transaction	Transaction Type	Dealer supplied transaction type indications that may from time-to-time include modification or cancellation notifications.	Enumerated Value: <ul style="list-style-type: none"> • I - Instrument • M – Modify • C - Cancel
	Publish Date Time	All Dates will be in Eastern Time (ET). Date and Time fields have been broken up into components so that Timezone is not used.	Date – <i>yyyy-mm-dd</i> ex: 2009-02-04 Time – <i>hh24:mi:ss</i> ex: 14:00:00
	Dealer Names	The identity of the ARS Program Dealer(s) or VRDO Remarketing Agent.	String{Min5,Max90} ex : Dealer MSRB Name
	AVTSCtrlNum	Unique identifier uses to tie transactions together in the case of modify or cancel.	String{Min16,Max16} ex : 9A842DA63EEF56EF
Instrument	CUSIP9	CUSIP Number for the ARS or VRDO	String{Min9,Max9} ex : 123456AB1
	Instrument Type	Indication of whether the security is an ARS or VRDO.	Enumerated Value: <ul style="list-style-type: none"> • A - ARS • V - VRDO
Rate Information	Interest Rate Reset Date Time	ARS - Date time that the ARS auction occurred. All times are Eastern Time (ET) and in military format. VRDO - Date time that the VRDO interest rate reset was determined. All times are Eastern Time (ET) and in military format.	Date – <i>yyyy-mm-dd</i> ex: 2009-02-04 Time – <i>hh24:mi:ss</i> ex: 14:00:00
	Interest Rate Period	Number of calendar days that the interest rate produced is applicable.	Integer{Min0,Max999} ex:10
	Interest Rate Posting Date Time	ARS (only) - Date Time that the ARS auction results were communicated to ARS Program Dealers. All times are Eastern Time and in military format.	Date – <i>yyyy-mm-dd</i> ex: 2009-02-04 Time – <i>hh24:mi:ss</i> ex: 14:00:00
	Effective Date of Interest Rate	VRDO (only) – Effective date that the interest rate reset is applicable	Date – <i>yyyy-mm-dd</i> ex: 2009-02-04
	Interest Rate	Interest rate, in percent.	Fixed Decimal (in percent) – <i>nn.nnn</i>
	Min Denomination	Minimum allowable transaction size, in par amount.	Numeric{Min0,Max9} ex: 25000

XML Container	Data Tag	Definition	Data Specification
Rate Information	Rate Type	ARS - Indication of whether the interest rate submitted represents a maximum rate (M), all hold rate (H), or an interest rate set by the auction process (A) VRDO - Indication of whether the interest rate submitted represents a maximum rate (M), a rate that was set by a formula (F), or a rate that was set by the VRDO Remarketing Agent (R)	Enumerated Value: ARS: <ul style="list-style-type: none"> • M – Max Rate • H – All Hold Rate • A – Set by Auction VRDO: <ul style="list-style-type: none"> • M – Max Rate • F – Set by Formula • R – Set by Agent
	Par Amount Auctioned	ARS (only) - Par amount auctioned not including hold orders effective at any interest rate. The par amount auctioned is commonly referred to in results of an auction communicated to Program Dealers by Auction Agents as the “accepted sells” or the “executed sells.”	Decimal{Min0,Max10} ex: 10000000.000
	Min Rate	ARS - Minimum interest rate, in percent, applicable at the time of the auction or if such minimum interest rate is not able to be calculated, an indication that such rate is not calculable (NC). VRDO - Minimum interest rate, in percent, applicable at the time of the interest rate or if such minimum interest rate is not able to be calculated, an indication that such rate is not calculable (NC).	Fixed Decimal (in percent) – nn.nnn (or “NC” if not calculable)
	Max Rate	ARS - Maximum interest rate, in percent, applicable at the time of the auction or if such maximum interest rate is not able to be calculated, an indication that such rate is not calculable (NC). VRDO - Maximum interest rate, in percent, applicable at the time of the interest rate reset or if such maximum interest rate is not able to be calculated, an indication that such rate is not calculable (NC).	Fixed Decimal (in percent) – nn.nnn (or “NC” if not calculable)
	Par Amount Remarketed	VRDO (only) - Par amount of the VRDO held by a party other than the VRDO Remarketing Agent. (This data element is reserved for future use.)	Decimal{Min0,Max10} ex: 10000000.000
	Notification Period	VRDO (only) - Number of calendar days that may lapse between a holder of a VRDO tendering its security and a liquidity provider purchasing the tendered security in the event that the Remarketing Agent is unable to remarket the tendered security.	Integer{Min0,Max999} ex:10
	Liquidity Facility Type	VRDO (only) - For each liquidity facility applicable to the VRDO, an indication of whether each is a standby bond purchase agreement (P) or letter or credit (L).	Enumerated Value: <ul style="list-style-type: none"> • P – Standby Bond Purchase Agreement • L – Letter of Credit • S – Self Liquidity
	Liquidity Facility Expire Date	VRDO (only) - The expiration date of each liquidity facility applicable to the VRDO.	Date – yyyy-mm-dd ex: 2009-02-04

XML Container	Data Tag	Definition	Data Specification
Rate Information	Identify of Liquidity Provider	VRDOs (only) - For each liquidity facility applicable to the VRDO, the identity of the liquidity provider. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.	String{Min1,Max90}
	Aggregate Par Amount – Bank Bond	VRDOs (only) - Par amount of the VRDO, if any, held by liquidity providers (as a “Bank Bond”). This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.	Decimal{Min0,Max10} ex: 100000000.000
	Aggregate Par Amount – Investors and Remarketing Agent	VRDOs (only) - Par amount of the VRDO, if any, held by parties other than a liquidity provider, which represents the aggregate par amounts held by the VRDO Remarketing Agent and by investors. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.	Decimal{Min0,Max10} ex: 100000000.000
	Identity of Tender Agent	VRDOs (only) - For each tender agent applicable to the VRDO, the identity of the tender agent. This value reflects information available to the VRDO Remarketing Agent as of the date and time of the interest rate reset.	String{Min1,Max90}
	Order Type	ARS (only) - Indication of whether an order is an order to buy, sell or hold at rate.	Enumerated Value: • B – Buy Order • H– Hold at Rate Order • S – Sell Order
	Order Interest Rate	ARS (only) - For orders to buy or hold at rate, the interest rate associated with such orders.	Fixed Decimal (in percent) – nn.nnn
	Order Entity	ARS (only) - Indication of whether an order placed or that was filled is for an investor, program dealer for its own account or issuer/conduit borrower of the ARS.	Enumerated Value: • I – Investor • P– Program Dealer • C – Issuer/Conduit Borrower
	Order Par Amount	ARS (only) - The aggregate par amount submitted to the auction for each order type, interest rate for buy and hold at rate orders, and order entity.	Decimal{Min0,Max10} ex: 100000000.000
	Filled Par Amount	ARS (only) - The aggregate par amount filled as a result of the auction for each order type, interest rate for buy and hold at rate orders and order entity.	Decimal{Min0,Max10} ex: 100000000.000
	Bid to Cover Ratio	ARS (only) - Ratio of the aggregate par amount of securities bid for the aggregate par amount of securities offered in an auction.	Decimal{Min0,Max5} ex: 1.450

Figure 9: Sample XML Messages

Sample XML Messages

ARS

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SubscriberResponse xmlns="http://www.msrb.org/avts/subscriber_response" xmlns:ns2="http://www.msrb.org/avts/common"
xmlns:ns3="http://www.msrb.org/avts/submitter">
  <ResponseMessageHeader>
    <ns2:ResponseMessageID>0001910661</ns2:ResponseMessageID>
    <ns2:ResponseMessageTimeStamp>
      <ns2:Date>2010-04-27</ns2:Date>
      <ns2:Time>16:17:30</ns2:Time>
    </ns2:ResponseMessageTimeStamp>
  </ResponseMessageHeader>
  <SubscriberMessage>
    <SubscriberRequestDetails>
      <ns2:UserID>abcd</ns2:UserID>
      <ns2:SubscriberMessageTimeStamp>
        <ns2:Date>2010-04-27</ns2:Date>
        <ns2:Time>16:17:25</ns2:Time>
      </ns2:SubscriberMessageTimeStamp>
      <ns2:InformationType>ResetRate/Liquidity</ns2:InformationType>
      <Query>
        <FromSeqNum>000000000000101</FromSeqNum>
      </Query>
    </SubscriberRequestDetails>
    <QueryResults>
      <QueryStatus>
        <ns2:ResultCode>S001</ns2:ResultCode>
        <ns2:ResultMessage>100 Transaction(s) Included</ns2:ResultMessage>
      </QueryStatus>
      <ResultSets>
        <ResultSet SeqNum="000000000000101">
          <Result>
            <ns2:ResultCode>S001</ns2:ResultCode>
          </Result>
        </ResultSet>
      </ResultSets>
    </QueryResults>
  </SubscriberMessage>
</SubscriberResponse>
```



```

    <ns2:ResultMessage>Success: Transaction retrieved</ns2:ResultMessage>
</Result>
<Transaction AVTSCtrlNum="496CCF5102584C84">
  <TransactionType>I</TransactionType>
  <Instrument>
    <ns2:CUSIP9>575827R85</ns2:CUSIP9>
    <ns2:InstrumentType>A</ns2:InstrumentType>
  </Instrument>
  <PublishDateTime>
    <ns2:Date>2009-01-30</ns2:Date>
    <ns2:Time>14:22:53</ns2:Time>
  </PublishDateTime>
  <DealerNames>
    <ns2:DealerMSRBName>Morgan Stanley & Co. Incorporated</ns2:DealerMSRBName>
    <ns2:DealerMSRBName>Citigroup Global Markets Inc.</ns2:DealerMSRBName>
    <ns2:DealerMSRBName>Goldman, Sachs & Company</ns2:DealerMSRBName>
    <ns2:DealerMSRBName>Merrill Lynch, Pierce, Fenner</ns2:DealerMSRBName>
  </DealerNames>
  <ns3:RateInformation>
    <ns3:InterestRateResetDateTime>
      <ns2:Date>2009-01-30</ns2:Date>
      <ns2:Time>13:25:40</ns2:Time>
    </ns3:InterestRateResetDateTime>
    <ns3:InterestRatePeriod>7</ns3:InterestRatePeriod>
    <ns3:InterestRatePostingDateTime>
      <ns2:Date>2009-01-30</ns2:Date>
      <ns2:Time>13:41:01</ns2:Time>
    </ns3:InterestRatePostingDateTime>
    <ns3:InterestRate>0.300</ns3:InterestRate>
    <ns3:MinDenomination>25000</ns3:MinDenomination>
    <ns3:RateType>M</ns3:RateType>
    <ns3:MinRate>0.100</ns3:MinRate>
    <ns3:MaxRate>0.300</ns3:MaxRate>
  </ns3:RateInformation>
  <Orders>
    <Order>

```

```
<OrderType>B</OrderType>
<OrderEntity>I</OrderEntity>
<OrderInterestRate>1.025</OrderInterestRate>
<OrderParAmount>500000</InvestorOrderParAmount>
<FilledParAmount>500000</InvestorFilledParAmount>
</Order>
<Order>
  <OrderType>O</OrderType>
  <OrderEntity>P</OrderEntity>
  <OrderInterestRate>1.025</OrderInterestRate>
  <OrderParAmount>500000</InvestorOrderParAmount>
</Order>
<Order>
  <OrderType>S</OrderType>
  <OrderEntity>C</OrderEntity>
  <OrderParAmount>500000</InvestorOrderParAmount>
  <FilledParAmount>500000</InvestorFilledParAmount>
</Order>
</Orders>
<BidToCoverRatio>1.45</BidToCoverRatio>
</Transaction>
<Transaction> ...
</Transaction>
</ResultSet>
<QueryResults>
</SubscriberResponse>
```


VRDO

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SubscriberResponse xmlns="http://www.msrb.org/avts/subscriber_response" xmlns:ns2="http://www.msrb.org/avts/common"
xmlns:ns3="http://www.msrb.org/avts/submitter">
  <ResponseMessageHeader>
    <ns2:ResponseMessageID>0001910661</ns2:ResponseMessageID>
    <ns2:ResponseMessageTimeStamp>
      <ns2:Date>2010-04-27</ns2:Date>
      <ns2:Time>16:17:30</ns2:Time>
    </ns2:ResponseMessageTimeStamp>
  </ResponseMessageHeader>
  <SubscriberMessage>
    <SubscriberRequestDetails>
      <ns2:UserID>abcd</ns2:UserID>
      <ns2:SubscriberMessageTimeStamp>
        <ns2:Date>2010-04-27</ns2:Date>
        <ns2:Time>16:17:25</ns2:Time>
      </ns2:SubscriberMessageTimeStamp>
      <ns2:InformationType>ResetRate/Liquidity</ns2:InformationType>
      <Query>
        <FromSeqNum>000000000000101</FromSeqNum>
      </Query>
    </SubscriberRequestDetails>
    <QueryResults>
      <QueryStatus>
        <ns2:ResultCode>S001</ns2:ResultCode>
        <ns2:ResultMessage>100 Transaction(s) Included</ns2:ResultMessage>
      </QueryStatus>
      <ResultSets>
        <ResultSet SeqNum="000000000000101">
          <Result>
            <ns2:ResultCode>S001</ns2:ResultCode>
            <ns2:ResultMessage>Success: Transaction retrieved</ns2:ResultMessage>
          </Result>
          <Transaction AVTSCtrlNum="16A1F522E83D3F83">
```

```

<TransactionType>I</TransactionType>
<Instrument>
  <ns2:CUSIP9>64972FHJ8</ns2:CUSIP9>
  <ns2:InstrumentType>V</ns2:InstrumentType>
</Instrument>
<PublishDateTime>
  <ns2:Date>2009-04-20</ns2:Date>
  <ns2:Time>10:27:25</ns2:Time>
</PublishDateTime>
<DealerNames>
  <ns2:DealerMSRBName>Raymond James & amp; Assoc., Inc.</ns2:DealerMSRBName>
</DealerNames>
<ns3:RateInformation>
  <ns3:NotificationPeriod>1</ns3:NotificationPeriod>
  <ns3:RateType>R</ns3:RateType>
  <ns3:InterestRatePeriod>1</ns3:InterestRatePeriod>
  <ns3:InterestRateResetDateTime>
    <ns2:Date>2009-04-20</ns2:Date>
    <ns2:Time>10:24:40</ns2:Time>
  </ns3:InterestRateResetDateTime>
  <ns3:InterestRate>0.350</ns3:InterestRate>
  <ns3:EffectiveDateIR>0.350</ns3:EffectiveDateIR>
  <ns3:MinRate>0.000</ns3:MinRate>
  <ns3:MaxRate>10.000</ns3:MaxRate>
  <ns3:MinDenomination>100000</ns3:MinDenomination>
  <ns3:AggregateParAmountBankBond>5000000</ns3:AggregateParAmountBankBond>
  <ns3:AggregateParAmountInvestorRA>1500000</ns3:AggregateParAmountInvestorRA>
  <ns3:LiquidityFacilities>
    <ns3:LiquidityFacility>
      <ns3:LiquidityFacilityType>L</ns3:LiquidityFacilityType>
      <ns3:LiquidityFacilityExpireDate>2011-06-20</ns3:LiquidityFacilityExpireDate>
      <ns3:IdentityOfLiquidityProvider>Piper Jaffray & amp; Co.</ns3:IdentityOfLiquidityProvider>
    </ns3:LiquidityFacility>
  </ns3:LiquidityFacilities>
  <ns3:TenderAgents>
    <ns3:TenderAgent>

```



```
<ns3:IdentityOfTenderAgent>Piper Jaffray & Co.</ns3:IdentityOfTenderAgent>
</ns3:TenderAgent>
</ns3:TenderAgents>
</ns3:RateInformation>
</Transaction>
<Transaction> ...
</Transaction>
</ResultSet>
<QueryResults>
</SubscriberResponse>
```