

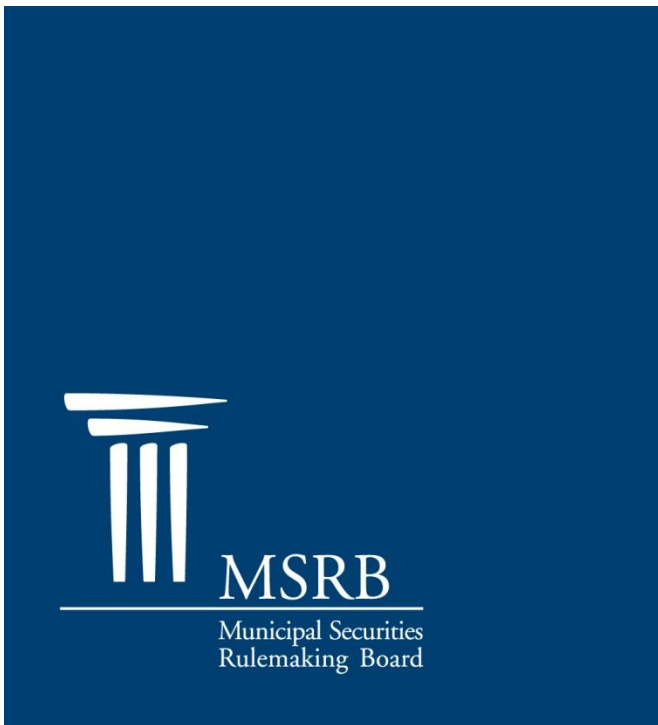


Specifications for the SHORT System Data Subscription Service

Version 3.0, February 2019



MSRB
Municipal Securities
Rulemaking Board



Revision History

Version	Date	Major Changes
1.0	August 10, 2010	Initial version
1.1	September 30, 2010	Clarified that access to a beta platform for testing is available for a maximum of 90 days
2.0	February 2011	Reflects changes related to the additional ARS and VRDO information described in MSRB Notice 2011-11; includes updated: Data Tag Mapping, XML Message Schemas, Data Tag Reference, Data Element Definitions and Sample XML Messages Changes effective May 16, 2011
2.1	April 2011	Schema minimum value allowed for AggregateParAmountInvestorRAType changed from 0 to -999999999
2.2	December 2012	Updated definition of ARS Bid to Cover data element
2.3	August 2015	Updated the Resources and Support section to reflect the change in hours of operation for Email Support.
3.0	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 Contents

Introduction	4
Specifications for the SHORT Subscription Service.....	5
Message Processing Overview	6
Data Tag Mapping	7
Data Message and Type Definition Schema	8
XML Message Schemas.....	10
SubscriberRequest.xsd	10
SubscriberResponse.xsd.....	12
Common.xsd	15
SubmitterInput.xsd.....	23
Data Tag Reference.....	29
Sample XML Messages.....	34
ARS	34
VRDO	37

Introduction

The Municipal Securities Rulemaking Board (MSRB) protects investors, issuers of municipal securities, entities whose credit stands behind municipal securities and public pension plans by promoting a fair and efficient municipal market. The MSRB fulfills this mission by regulating securities firms, banks and municipal advisors that engage in municipal securities and advisory activities. To further protect market participants, the MSRB promotes disclosure and market transparency through its Electronic Municipal Market Access (EMMA®) website, provides education and conducts extensive outreach. The MSRB has operated under Congressional mandate with oversight by the Securities and Exchange Commission since 1975.

The EMMA website is a centralized online database operated by the MSRB that provides free public access to official disclosure documents and trade data associated with municipal bonds issued in the United States. In addition to current credit rating information, the EMMA website also makes available real-time trade prices and primary market and continuing disclosure documents for over one million outstanding municipal bonds, as well as current interest rate information, liquidity documents and other information for most variable rate municipal securities.

The MSRB Short-term Obligation Rate Transparency (SHORT) System is a facility for the collection and dissemination of information and documents about municipal securities bearing interest at short-term rates, which include municipal Auction Rate Securities (ARS) and Variable Rate Demand Obligations (VRDOs).

The MSRB SHORT System subscription service is designed to make all information collected by the SHORT System available to subscribers simultaneously with the posting of such information to the EMMA website. The SHORT subscription service became operational on September 30, 2010 and is provided through computer-to-computer data streams utilizing XML files for data.

This document provides specifications for subscribing to the information collected by the SHORT System. Subscribers to the SHORT subscription service are required to enter into a subscription agreement with the MSRB and are subject to the terms and conditions thereof. This document also outlines general background on the nature of submissions made to the SHORT System that are disseminated through the SHORT subscription service.

Specifications for the SHORT Subscription Service

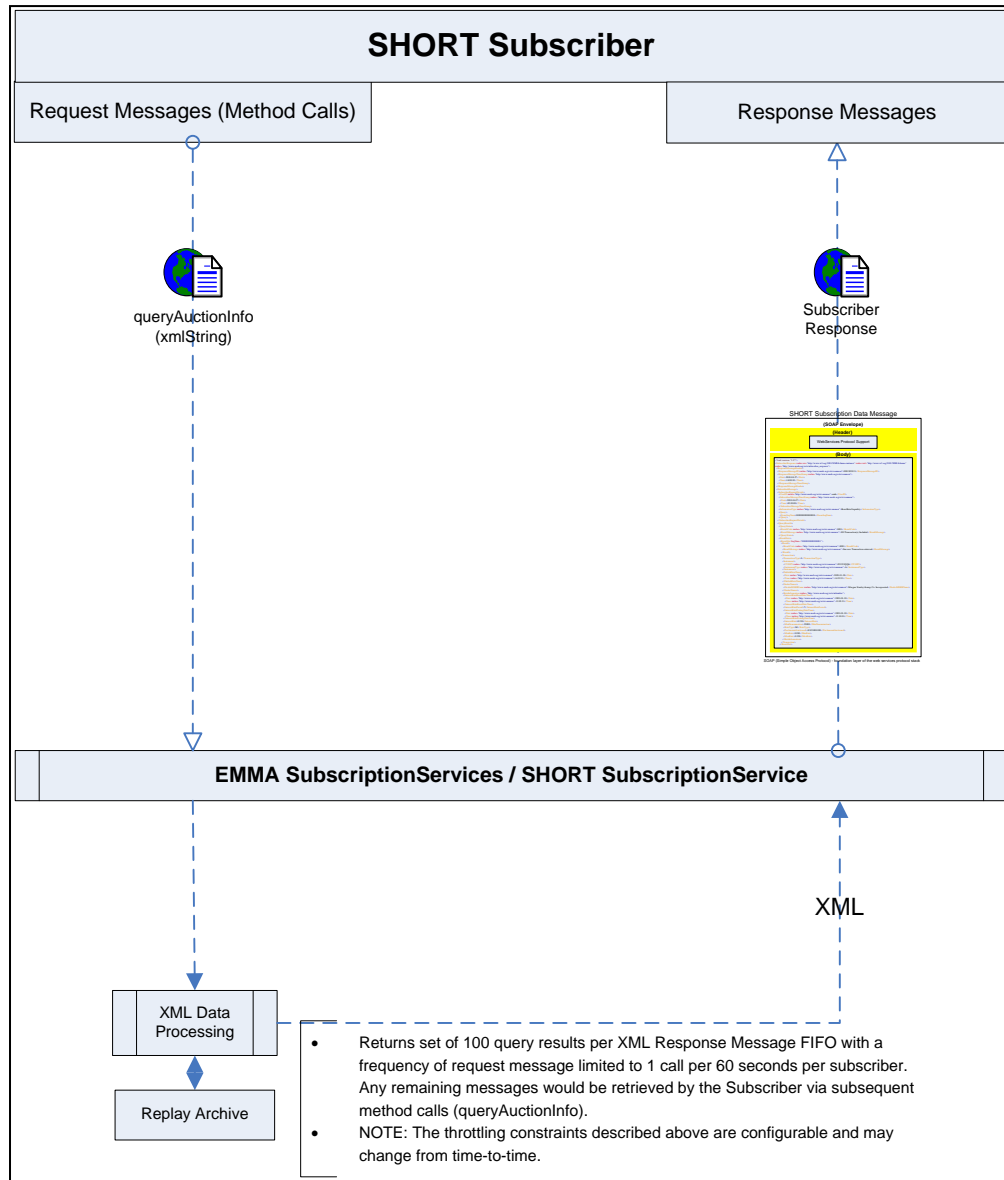
The MSRB makes available a web service to allow subscribers to receive SOAP (Simple Object Access Protocol) standard XML (extensible markup language) messages using secure, computer-to-computer communications. This service is remotely consumed by applications written by or for subscribers in a wide variety of programming languages and running on a wide variety of platforms.

MSRB makes available a Beta version of SHORT subscription service. A beta version of the SHORT subscription service serves as a platform for subscribers to conduct tests to ensure proper programming and configuration of their applications for receiving SHORT System information. Data available through the beta platform are for test purposes only and are not to be re-disseminated or otherwise used by subscribers, other than for purposes of testing programming and configuration of subscription applications. Access to the beta site requires a separate set-up.



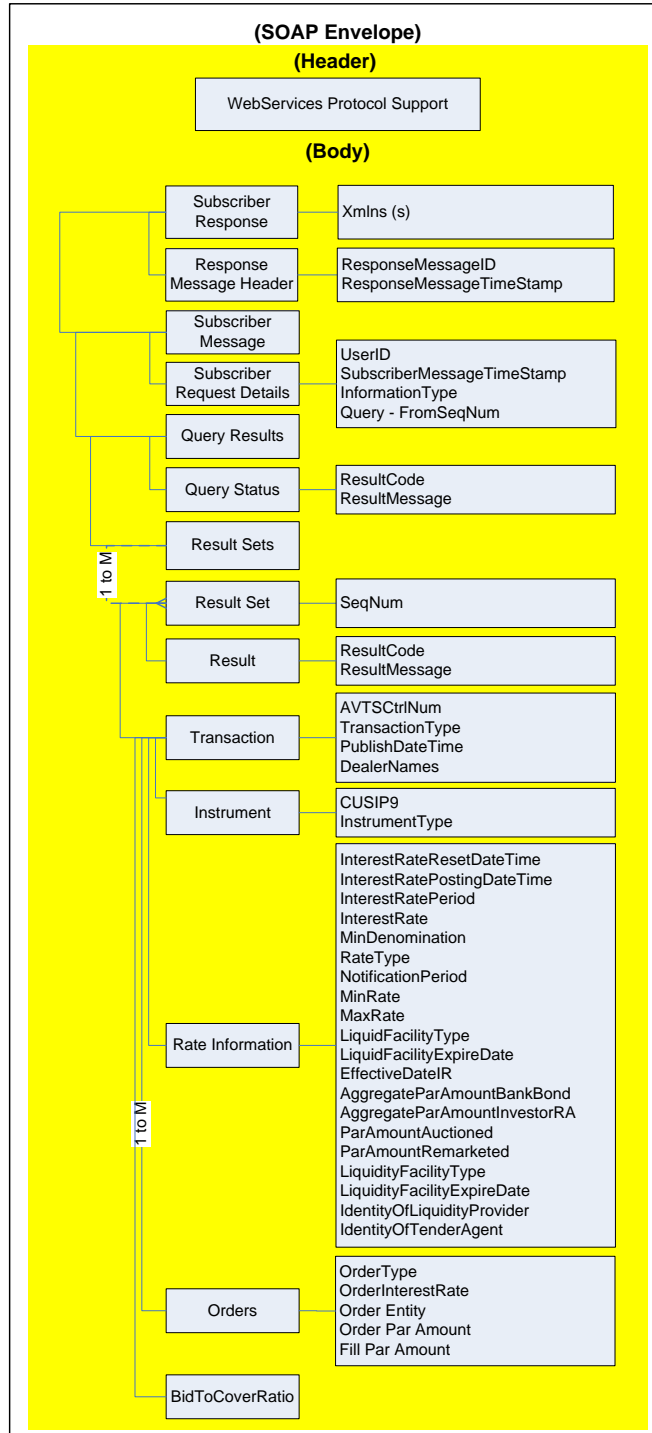
Access to the beta platform is made available for a maximum of three months after which time the subscriber is required to go into production mode. Failure to do so will result in termination of access to the beta platform.

Message Processing Overview



Data Tag Mapping

SHORT Subscription Data Message



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

Data Message and Type Definition Schema

Set forth below is a schema (.xsd) associated with both subscription request and response data messages.

SHORT Subscriber Request Message Method Call (queryAuctionInfo)

(SOAP)

(Header)

xmlString

```
<?xml version="1.0" encoding="utf-8"?>
<SubscriberRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://
www.msrb.org/avts/subscriber">
  <Subscriber>
    <UserID xmlns="http://www.msrb.org/avts/common"></UserID>
    <SubscriberMessageTimeStamp xmlns="http://www.msrb.org/
avts/common">
      <Date>2010-05-18</Date>
      <Time>04:32:49</Time>
    </SubscriberMessageTimeStamp>
    <InformationType xmlns="http://www.msrb.org/avts/
common">ResetRate/Liquidity</InformationType>
    <Password xmlns="http://www.msrb.org/avts/common"></
Password>
  </Subscriber>
  <Query>
    <FromSeqNum>0000000000000001</FromSeqNum>
  </Query>
</SubscriberRequest>
```

SHORT Subscription Response Data Message

(SOAP Envelope)

(Header)

WebServices Protocol Support

(Body)

```

<?xml version="1.0"?>
<SubscriberResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.msrb.org/avts/subscriber_response">
  <ResponseMessageHeader>
    <ResponseMessageID xmlns="http://www.msrb.org/avts/common">0001909931</ResponseMessageID>
    <ResponseMessageTimeStamp xmlns="http://www.msrb.org/avts/common">
      <Date>2010-04-27</Date>
      <Time>14:00:03</Time>
    </ResponseMessageTimeStamp>
  </ResponseMessageHeader>
  <SubscriberMessage>
    <SubscriberRequestDetails>
      <UserID xmlns="http://www.msrb.org/avts/common">asub</UserID>
      <SubscriberMessageTimeStamp xmlns="http://www.msrb.org/avts/common">
        <Date>2010-04-27</Date>
        <Time>02:00:00</Time>
      </SubscriberMessageTimeStamp>
      <InformationType xmlns="http://www.msrb.org/avts/common">ResetRate/Liquidity</InformationType>
      <Query>
        <FromSeqNum>0000000000000001</FromSeqNum>
      </Query>
    </SubscriberRequestDetails>
    <QueryResults>
      <QueryStatus>
        <ResultCode xmlns="http://www.msrb.org/avts/common">S001</ResultCode>
        <ResultMessage xmlns="http://www.msrb.org/avts/common">100 Transaction(s) Included</ResultMessage>
      </QueryStatus>
      <ResultSet SeqNum="0000000000000001">
        <Result>
          <ResultCode xmlns="http://www.msrb.org/avts/common">S001</ResultCode>
          <ResultMessage xmlns="http://www.msrb.org/avts/common">Success: Transaction retrieved</ResultMessage>
        </Result>
        <Transaction AVTSCtrlNum="9A842DA63EEF56EF">
          <TransactionType>I</TransactionType>
          <Instrument>
            <CUSIP9 xmlns="http://www.msrb.org/avts/common">059231QQ6</CUSIP9>
            <InstrumentType xmlns="http://www.msrb.org/avts/common">A</InstrumentType>
          </Instrument>
          <PublishDateTime>
            <Date xmlns="http://www.msrb.org/avts/common">2009-01-30</Date>
            <Time xmlns="http://www.msrb.org/avts/common">14:22:53</Time>
          </PublishDateTime>
          <DealerNames>
            <DealerMSRBName xmlns="http://www.msrb.org/avts/common">Morgan Stanley & Co. Incorporated</
DealerMSRBName>
          </DealerNames>
          <RateInformation xmlns="http://www.msrb.org/avts/submitter">
            <InterestRateResetDateTime>
              <Date xmlns="http://www.msrb.org/avts/common">2009-01-30</Date>
              <Time xmlns="http://www.msrb.org/avts/common">13:05:21</Time>
            </InterestRateResetDateTime>
            <InterestRatePeriod>7</InterestRatePeriod>
            <InterestRatePostingDateTime>
              <Date xmlns="http://www.msrb.org/avts/common">2009-01-30</Date>
              <Time xmlns="http://www.msrb.org/avts/common">13:10:01</Time>
            </InterestRatePostingDateTime>
            <InterestRate>0.350</InterestRate>
            <MinDenomination>25000</MinDenomination>
            <RateType>M</RateType>
            <MinRate>0.090</MinRate>
            <MaxRate>0.350</MaxRate>
          </RateInformation>
          <Orders>
            <Order>
              <OrderType xmlns="http://www.msrb.org/avts/common">B</OrderType>
              <OrderEntity xmlns="http://www.msrb.org/avts/common">I</OrderEntity>
              <OrderInterestRate>1.025</OrderInterestRate>
              <OrderParAmount>500000</InvestorOrderParAmount>
              <FilledParAmount>500000</InvestorFilledParAmount>
            </Order>
            <Order>
              <OrderType xmlns="http://www.msrb.org/avts/common">O</OrderType>
              <OrderEntity xmlns="http://www.msrb.org/avts/common">P</OrderEntity>
              <OrderInterestRate>1.025</OrderInterestRate>
              <OrderParAmount>500000</InvestorOrderParAmount>
            </Order>
            <Order>
              <OrderType xmlns="http://www.msrb.org/avts/common">S</OrderType>
              <OrderEntity xmlns="http://www.msrb.org/avts/common">C</OrderEntity>
              <OrderInterestRate>1.025</OrderInterestRate>
              <OrderParAmount>500000</InvestorOrderParAmount>
              <FilledParAmount>500000</InvestorFilledParAmount>
            </Order>
          </Orders>
        </Transaction>

```

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

XML Message Schemas

Detailed below are Subscriber Request, Subscriber Response, Common, and Submitter Input 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: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:sequence>
    </xsd:complexType>
  </xsd:element>

```

```

        <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:sequence>
</xsd:complexType>

```

```
<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: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
        </xsd:documentation>
    </xsd:annotation>
</xsd:simpleType>

```

```

                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>

<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: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:restriction>
</xsd:simpleType>
```

```
        <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>
```

Data Tag Reference

This section sets forth the data elements that will be used in connection with the XML interface for the SHORT System. The data elements are listed in tables that have the following columns. 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) – nn.nnn
	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.” (This date element retired as of May 16, 2011.)	Decimal{Min0,Max10} ex: 100000000.000
	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 date element retired as of May 16, 2011.)	Decimal{Min0,Max10} ex: 100000000.000
	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

XML Container	Data Tag	Definition	Data Specification
Rate Information	Bid to Cover Ratio	<p>ARS (only) - Ratio providing one indication of the level of demand, or lack thereof, by investors and, in a limited number of cases, issuers/conduit borrowers in an auction for an auction rate security using the following formula: $(\text{Par Amount Outstanding} - \text{Aggregate Sell Orders} - (\text{Aggregate Hold at Rate Orders} - \text{Aggregate Hold at Rate Orders Filled}) + \text{Buy Orders}) / \text{Par Amount Outstanding}$. This calculation does not include orders by program dealers for their own accounts and therefore the bid-to-cover ratio provides only a representation of demand for the auction rate security by investors and issuers/conduit borrowers in comparison to the supply of auction rate securities from these auction participants. A bid-to-cover ratio greater than 1 indicates that the demand among investors and issuers/conduit borrowers for the auction rate security was greater than the amount of securities offered for sale by these auction participants in an auction. A bid-to-cover ratio of less than 1 indicates that the demand among investors and issuers/conduit borrowers for the auction rate security was less than the amount of securities offered for sale by these auction participants and a bid-to-cover ratio of 1 indicates that these amounts were equivalent. However, since the bid-to-cover ratio does not reflect program dealer orders, the bid-to-cover ratio for a successful auction may be less than 1 if the auction was successful as a result of buy orders from program dealers. In addition, in some instances, a bid-to-cover ratio of -999.99 will be disseminated indicating that the calculation was not able to be performed due to erroneous or insufficient data.</p>	<p>Decimal{Min0,Max5} ex: 1.450</p>

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>0000000000000101</FromSeqNum>
      </Query>
    </SubscriberRequestDetails>
    <QueryResults>
      <QueryStatus>
        <ns2:ResultCode>S001</ns2:ResultCode>
        <ns2:ResultMessage>100 Transaction(s) Included</ns2:ResultMessage>
      </QueryStatus>
      <ResultSets>
        <ResultSet SeqNum="0000000000000101">
          <Result>
            <ns2:ResultCode>S001</ns2:ResultCode>
            <ns2:ResultMessage>Success: Transaction retrieved</ns2:ResultMessage>
          </Result>
        </ResultSet>
      </ResultSets>
    </QueryResults>
  </SubscriberMessage>
</SubscriberResponse>
```

```

<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>
  </Orders>

```

```
<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>0000000000000101</FromSeqNum>
      </Query>
    </SubscriberRequestDetails>
    <QueryResults>
      <QueryStatus>
        <ns2:ResultCode>S001</ns2:ResultCode>
        <ns2:ResultMessage>100 Transaction(s) Included</ns2:ResultMessage>
      </QueryStatus>
      <ResultSets>
        <ResultSet SeqNum="0000000000000101">
          <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>
            </Instrument>
          </Transaction>
        </ResultSet>
      </ResultSets>
    </QueryResults>
  </SubscriberMessage>
</SubscriberResponse>

```

```

    <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 & 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 & 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>
```