Transaction Fee Pilot: Exchange Transaction Fee Summary Technical Specification

Draft 03/29/2018

This draft Exchange Transaction Fee Summary Technical Specification is being posted for

public review in connection with Commission consideration of potential regulatory changes.

Commission staff encourages the public to participate in the public review of this draft Technical

Specification, which provides the technical specifications that exchanges would use to provide

data on their transaction fees pursuant to proposed Rule 610T(e). The availability for public

comment of this draft Technical Specification does not indicate Commission approval of any

potential regulatory changes reflected in this draft Technical Specification. Please provide

comments on the draft Technical Specification via email to StructuredData@sec.gov and include

"Draft Transaction Fee Pilot Exchange Transaction Fee Summary Technical Specification" in

the subject line no later than May 25, 2018.

1 OVERVIEW

1.1 Goal

This document provides the technical specifications for how exchanges would provide information required under proposed Rule 610T(e). The Technical Specification defines syntax of data elements, their contents, arrangements of elements, and methods for validation. This Technical Specification has been created for the limited purpose of providing a technical audience with the proposed specifications for conforming data to the Commission's proposed data schema for the Exchange Transaction Fee Summary. This specification does not provide interpretative guidance for any rule.

1.2 Definitions

Exchange Transaction Fee Summary: As defined in proposed Rule 610T(e).

XML Schema: A World Wide Web Consortium (W3C) recommendation that specifies how to formally describe the elements in an Extensible Markup Language (XML) document. This description can be used to verify that each item of content in a document adheres to the description of the element in which the content is to be placed.

1.3 Concept Definition Tables

The proposed Concept Definition table is found in Exhibit 1 to Release No. 34-82873, in which the Commission proposed Rule 610T.

1.4 Abbreviations Used Within Element Names

Element names contain abbreviations using the ISO 20022 XML Element name conventions.

https://www.iso20022.org/sites/default/files/documents/general/XML_Tags.pdf

- Group: grp

- Participant: ptcpt

1.5 Validation

XML Schema validation will signal errors such as missing or misplaced elements, negative

values where a positive value is required, values outside the expected range, and insufficient

decimal digits of precision.

2 SCHEMA (NORMATIVE)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">
 <xs:element name="feeData">
  <xs:complexType>
   <xs:sequence>
    <xs:element name="fee" minOccurs="0" maxOccurs="unbounded">
     <xs:complexType>
      <xs:sequence>
       <xs:element name="sro">
        <xs:annotation>
         <xs:documentation>
A required unique code to identify each SRO in the Transaction Fee Pilot.
         </xs:documentation>
        </xs:annotation>
        <xs:simpleType>
         <xs:restriction base="xs:string">
          <xs:pattern value="[A-Z][A-Z0-9 ]*[A-Z0-9]"/>
         </xs:restriction>
        </xs:simpleType>
       </xs:element>
       <xs:element name="rt">
        <xs:annotation>
         <xs:documentation>
A required record type indicator. M, if the fee type reported is a monthly realized fee (average
or median fee); S, if the fee type reported is a spot fee schedule (base or top tier fee).
         </xs:documentation>
        </xs:annotation>
        <xs:simpleType>
         <xs:restriction base="xs:string">
          <xs:enumeration value="M"/>
          <xs:enumeration value="S"/>
         </xs:restriction>
        </xs:simpleType>
       </xs:element>
       <xs:element name="ptcpt" minOccurs="0" default="">
        <xs:annotation>
```

```
            <xs:documentation>
```
MM, if the fees are for market makers, else Other. Required for spot records if the exchange
charged market makers and others different base and top tier fees. Required for monthly fee
records if exchanges charged different average or median fees or pays different average or median
fees. Otherwise blank or absent.
```
            </xs:documentation>
          </xs:annotation>
          <xs:simpleType>
           <xs:restriction base="xs:string">
            <xs:enumeration value="MM"/>
            <xs:enumeration value="Other"/>
            <xs:enumeration value=""/>
           </xs:restriction>
          </xs:simpleType>
         </xs:element>
         <xs:element name="grp">
          <xs:annotation>
           <xs:documentation>
```
A required indicator that identifies the test or control group during the Pilot and post-Pilot
periods. 1, 2, 3 - Test Groups 1, 2, 3; C - Control group.
```
           </xs:documentation>
          </xs:annotation>
          <xs:simpleType>
           <xs:restriction base="xs:string">
            <xs:enumeration value="C"/>
            <xs:enumeration value="1"/>
            <xs:enumeration value="2"/>
            <xs:enumeration value="3"/>
           </xs:restriction>
          </xs:simpleType>
         </xs:element>
         <xs:element name="disp">
          <xs:annotation>
           <xs:documentation>
```
D - Displayed, N - Not displayed, B - Both. For spot fee type records, if the fees are the same
between displayed and non-displayed liquidity, then the exchange may report both in a single "B"
record. For monthly records, this should be segmented into the average and median fee per share
for displayed liquidity, and the average and median fee for non-displayed liquidity unless there
are no differences between the average and median fees for displayed and non-displayed liquidity,
in which case the exchange can report the average and median fee in a single "B" record.
```
           </xs:documentation>
          </xs:annotation>
          <xs:simpleType>
           <xs:restriction base="xs:string">
            <xs:enumeration value="D"/>
            <xs:enumeration value="N"/>
            <xs:enumeration value="B"/>
           </xs:restriction>
          </xs:simpleType>
         </xs:element>
         <xs:element name="topOrDepth">
          <xs:annotation>
           <xs:documentation>
```
T - Fees for top-of-book liquidity, D - Fees for depth-of-book liquidity, B - Both. For spot
records, if the fees are the same between top-of-book and depth-of-book liquidity, then the
exchange may report both fees in a single "B" record. For monthly records, if there are no
differences between the fees for top-of-book and depth-of-book liquidity, then the exchange may
include only the average and median fees in a single "B" record.
```
           </xs:documentation>
          </xs:annotation>
          <xs:simpleType>
           <xs:restriction base="xs:string">
            <xs:enumeration value="T"/>
            <xs:enumeration value="D"/>
            <xs:enumeration value="B"/>
           </xs:restriction>
          </xs:simpleType>
         </xs:element>
         <xs:sequence minOccurs="0">
          <xs:annotation>
```

```
            <xs:documentation>
```
The start date element must be present for a spot fee record, and the end element cannot appear
alone.
```
            </xs:documentation>
          </xs:annotation>
          <xs:element name="startDate" type="DATE_OR_BLANK_TYPE">
            <xs:annotation>
             <xs:documentation>
```
The effective date for any fee changes. This should correspond to the effective date referenced
in the 19b-4 fee filing submitted to the Commission. This is needed in a monthly record only if
fees changed on a day other than the first of the month; otherwise blank or absent
```
             </xs:documentation>
            </xs:annotation>
          </xs:element>
          <xs:element name="endDate" minOccurs="0" default="" type="DATE_OR_BLANK_TYPE">
            <xs:annotation>
             <xs:documentation>
```
The last date that a given fee is assessed prior to any fee changes. This column will be blank
unless a mid-month change to fees is made. This should correspond to the last date that a given
fee is applicable prior to the effective date of the new fee reflected in Form 19b-4 filings
submitted to the Commission to capture any revisions to transaction-based fees and rebates. This
is needed in a monthly record only if fees changes on a day other than the first of the month.
```
             </xs:documentation>
            </xs:annotation>
          </xs:element>
         </xs:sequence>
         <xs:element minOccurs="0" name="yearMonth" type="YEAR_MONTH_OR_BLANK_TYPE">
           <xs:annotation>
            <xs:documentation>
```
The year and month of the monthly realized reported average and median per-share fees.
```
            </xs:documentation>
           </xs:annotation>
         </xs:element>
         <xs:element name="preOrPost" minOccurs="0" default="">
           <xs:annotation>
            <xs:documentation>
```
An indicator variable needed only if the exchange changed fees on a day other than the first day
of the month. Blank - there were no fee changes other than on the first day of the month. 1 - the
average and median are the pre-change average and median for the part of the month prior to the
change. 2 - the average and median are the post-change average and median for the part of the
month after the change.
```
            </xs:documentation>
           </xs:annotation>
           <xs:simpleType>
            <xs:restriction base="xs:string">
             <xs:enumeration value="1"/>
             <xs:enumeration value="2"/>
             <xs:enumeration value=""/>
            </xs:restriction>
           </xs:simpleType>
         </xs:element>
         <xs:sequence>
          <xs:annotation>
           <xs:documentation>
```
The base and top tier fees are required in both spot and monthly records.
```
           </xs:documentation>
          </xs:annotation>
          <xs:element name="baseTakeFee" type="DECIMAL_OR_BLANK_TYPE">
           <xs:annotation>
            <xs:documentation>
```
The Base Taker Fee is the standard per share fee assessed or rebate offered before any applicable
discounts, tiers, caps, or other incentives are applied. Fees have a positive sign; rebates have
a negative sign.
```
            </xs:documentation>
           </xs:annotation>
          </xs:element>
          <xs:element name="topTierTakeFee" type="DECIMAL_OR_BLANK_TYPE">
           <xs:annotation>
            <xs:documentation>
```

```
The Top Tier Taker Fee is the per share fee assessed or rebate offered after all applicable
discounts, tiers, caps, or other incentives are applied. Fees have a positive sign; rebates have
a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
            <xs:element name="baseMakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The Base Maker Fee is the standard per share fee assessed or rebate offered before any applicable
discounts, tiers, caps, or other incentives are applied. Fees have a positive sign; rebates have
a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
            <xs:element name="topTierMakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The Top Tier Maker Fee is the per share fee assessed or rebate offered after all applicable
discounts, tiers, caps, or other incentives are applied. Fees have a positive sign; rebates have
a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
          </xs:sequence>
          <xs:sequence minOccurs="0">
            <xs:annotation>
              <xs:documentation>
The average and median fees are not required in a spot record.
              </xs:documentation>
            </xs:annotation>
            <xs:element name="avgTakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The monthly average realized Taker fee assessed or rebate offered per share by category (i.e.,
test group, participant type, displayed vs. non-displayed, and top-of-book vs. depth-of-book).
Fees have a positive sign; rebates have a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
            <xs:element name="medianTakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The monthly median realized Taker fee assessed or rebate offered per share by category (i.e.,
test group, participant type, displayed vs. non-displayed, and top-of-book vs. depth-of-book),
across broker-dealers. Fees have a positive sign; rebates have a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
            <xs:element name="avgMakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The monthly average realized Maker fee assessed or rebate offered per share by category (i.e.,
test group, participant type, displayed vs. non-displayed, and top-of-book vs. depth-of-book).
Fees have a positive sign; rebates have a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
            <xs:element name="medianMakeFee" type="DECIMAL_OR_BLANK_TYPE">
              <xs:annotation>
                <xs:documentation>
The monthly median realized Maker fee assessed or rebate offered per share, by category (i.e.,
test group, participant type, displayed vs. non-displayed, and top-of-book vs. depth-of-book),
across broker-dealers. Fees have a positive sign; rebates have a negative sign.
                </xs:documentation>
              </xs:annotation>
            </xs:element>
          </xs:sequence>
```

```
      </xs:sequence>
     </xs:complexType>
    </xs:element>
   </xs:sequence>
  </xs:complexType>
 </xs:element>
 <xs:simpleType name="DATE_OR_BLANK_TYPE">
  <xs:annotation>
   <xs:documentation>
```
A date as YYYY-MM-DD, or empty.
```
   </xs:documentation>
  </xs:annotation>
  <xs:union memberTypes="xs:date EMPTY_TYPE"/>
 </xs:simpleType>
 <xs:simpleType name="YEAR_MONTH_OR_BLANK_TYPE">
  <xs:annotation>
   <xs:documentation>
```
A month in YYYY-MM format, or empty.
```
   </xs:documentation>
  </xs:annotation>
  <xs:union memberTypes="xs:gYearMonth EMPTY_TYPE"/>
 </xs:simpleType>
 <xs:simpleType name="DECIMAL_OR_BLANK_TYPE">
  <xs:annotation>
   <xs:documentation>
```
A number or blank.
```
   </xs:documentation>
  </xs:annotation>
  <xs:union memberTypes="xs:decimal EMPTY_TYPE"/>
 </xs:simpleType>
 <xs:simpleType name="EMPTY_TYPE">
  <xs:annotation>
   <xs:documentation>
```
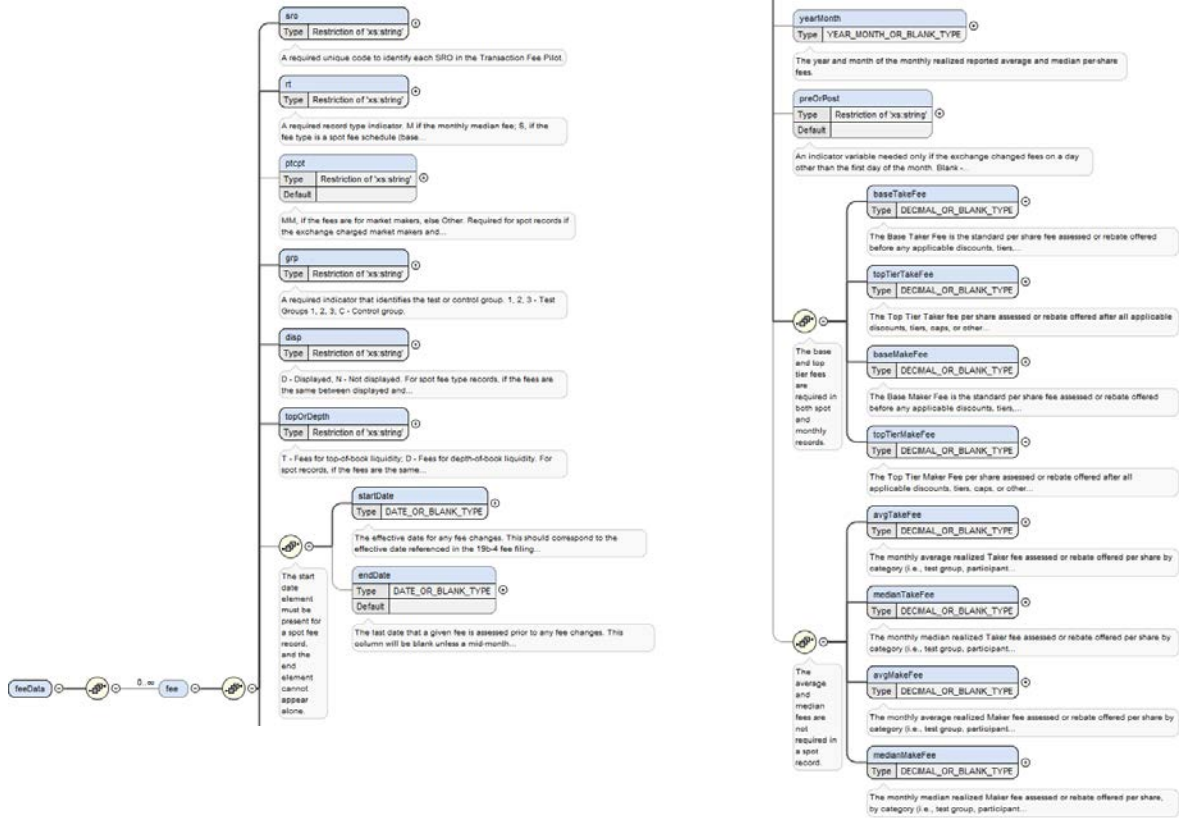A string of zero length.
```
   </xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
   <xs:maxLength value="0"/>
  </xs:restriction>
 </xs:simpleType>
 <xs:simpleType name="NONEMPTY_TYPE">
  <xs:annotation>
   <xs:documentation>
```
A string of at least one character.
```
   </xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
   <xs:minLength value="1"/>
  </xs:restriction>
 </xs:simpleType>
</xs:schema>
```

3 SCHEMA GRAPHICAL REPRESENTATION (NON-NORMATIVE)

4 SAMPLE DATA (NON-NORMATIVE)

sro	rt	ptcpt	Grp	disp	topOrDepth	startDate	endDate	monthYear	preOrPost	baseTakeFee	tpTierTakeFee	averageTakeFee	medianTakeFee	baseMakeFee	topTierMakeFee	averageMakeFee	medianMakeFee
XYZ	S	Other	1	D	T	11/11/2020				0.0001	0.0001			-0.0001	-0.0001		
XYZ	S	MM	1	D	T	11/11/2020	12/11/2020										
XYZ	M	Other	1	D	T			1/2010				0.0001	0.00001			0.0001	0.00001
XYZ	M	MM	1	D	T			2/2020	1			0.0005	0.0005			0.0005	0.0005
XYZ	M	MM	1	D	T			2/2020	2			0.0004	0.0004			0.0004	0.0004

5 SAMPLE INSTANCE (NON-NORMATIVE)

```xml
<feeData>
 <fee>
  <sro>XYZ</sro>
  <rt>S</rt>
  <ptcpt>Other</ptcpt>
  <grp>1</grp>
  <disp>D</disp>
  <topOrDepth>T</topOrDepth>
  <startDate>2020-11-11</startDate>
  <baseTakeFee>0.0001</baseTakeFee>
  <topTierTakeFee>0.0001</topTierTakeFee>
  <baseMakeFee>-0.0001</baseMakeFee>
  <topTierMakeFee>-0.0001</topTierMakeFee>
 </fee>
 <fee>
  <sro>XYZ</sro>
  <rt>S</rt>
  <ptcpt>MM</ptcpt>
  <grp>1</grp>
  <disp>D</disp>
  <topOrDepth>T</topOrDepth>
  <startDate>2020-11-11</startDate>
  <endDate>2021-12-11</endDate>
 </fee>
 <fee>
  <sro>XYZ</sro>
  <rt>M</rt>
  <ptcpt>Other</ptcpt>
  <grp>1</grp>
  <disp>D</disp>
  <topOrDepth>T</topOrDepth>
  <yearMonth>2020-01</yearMonth>
  <avgTakeFee>0.0001</avgTakeFee>
  <medianTakeFee>0.00001</medianTakeFee>
  <avgMakeFee>0.0001</avgMakeFee>
  <medianMakeFee>0.00001</medianMakeFee>
 </fee>
 <fee>
  <sro>XYZ</sro>
  <rt>M</rt>
  <ptcpt>MM</ptcpt>
  <grp>1</grp>
  <disp>D</disp>
  <topOrDepth>T</topOrDepth>
  <yearMonth>2020-02</yearMonth>
  <preOrPost>1</preOrPost>
  <avgTakeFee>0.0005</avgTakeFee>
  <medianTakeFee>0.0005</medianTakeFee>
  <avgMakeFee>0.0005</avgMakeFee>
  <medianMakeFee>0.0005</medianMakeFee>
 </fee>
 <fee>
```

```xml
    <sro>XYZ</sro>
    <rt>M</rt>
    <ptcpt>MM</ptcpt>
    <grp>1</grp>
    <disp>D</disp>
    <topOrDepth>T</topOrDepth>
    <yearMonth>2020-02</yearMonth>
    <preOrPost>2</preOrPost>
    <avgTakeFee>0.0004</avgTakeFee>
    <medianTakeFee>0.0004</medianTakeFee>
    <avgMakeFee>0.0004</avgMakeFee>
    <medianMakeFee>0.0004</medianMakeFee>
  </fee>
</feeData>
```