Release no later than date: 11/16/2018

ARM V14.16.5.0

Contents of the Release

Changes to Web Service Interface

None.

Changes to Databag XML Schema

1. **Client_9902_Reporting_Qtr field added to client_profile_databag_5_0.xsd:** This new field is currently optional with plans to be required in the future. The field should include the report_period_id reference value for the 9902 reporting quarter that the counseling activity is to be initially reported for. See Attachment B showing changes to client_profile_databag_5_0.xsd.

2. **Client_Gender changed to optional, additional option of O added.** In client_profile_databag_5_0.xsd, the existing Client_Gender field has been changed from required to optional and a third option of "O" for Other has been added as a valid response. See Attachment B showing changes to client_profile_databag_5_0.xsd.

3. **Disallow values with leading zeros.** The ARM XML schema has been updated to disallow values formatted with leading zeros, as such values are interpreted by ARM as octal. See Attachment A showing changes to simpleTypes5.0.xsd and the affected fields in the ARM XML Schema.

4. **Interest rate fields allow for 1 to 3 digits after the decimal.** In client_profile_databag_5_0.xsd, the interestRate type has been changed from requiring 3 digits after the decimal place to requiring 1, 2 or 3 digits after the decimal place. See Attachment A showing changes to simpleTypes5.0.xsd and the affected fields in the ARM XML Schema.

5. **Remove legacy simple types:** The hcsId, outcomeOfVisitId, cmsType, and groupSessionType simple types have been removed as they are no longer being used. See Attachment A showing changes to simpleTypes5.0.xsd.

Changes to WSDL

None.

Changes to SDK

None.

Changes to the Web Service Behavior

1. **Validate Agency Contact Email Addresses and Domain:** A validation on all agency email addresses has been added to validate the format of the email address and the domain.

2. **Validate Fiscal Year is not in the future:** If a future fiscal year has been set up in HCS, do not allow submissions for that fiscal year until the reporting period for that fiscal year has started.

Bug Fixes

1. **Unexpected error resolved:** fix for unexpected error when verifying an agency's grant that occurs when both the agency and the parent agency have an award entered in HCS.

Advisories

None.

Attachment A – Changes to ARM Schema – simpleTypes5.0.xsd

Simple Type Name: hcsId

Field: Submission header.HcsId

Old:

```
<xs:simpleType name="hcsId">
    <xs:restriction base="xs:nonNegativeInteger">
        <xs:pattern value="[0-9]{5}"></xs:pattern>
    </xs:restriction>
</xs:simpleType>
```

New: [Removed]

Explanation: hcsId simple type is no longer being used.

Simple Type Name: gender

Field: Client_Profile.Client_Gender

Old:

```
<xs:simpleType name="gender">
    <xs:restriction base="xs:string">
        <xs:enumeration value="M" />
        <xs:enumeration value="F" />

    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="gender">
  <xs:restriction base="xs:string">
    <xs:enumeration value="M" />
    <xs:enumeration value="F" />
    <xs:enumeration value="O" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change allows for the submission of the letter O for gender type to indicate Other.

Simple Type Name: incomeLevel

Fields: Client_Profile.Client_Income_Level; Group_Session_Attendee. Attendee_Income_Level; Attendee. Attendee_Income_Level

Old:

```
<xs:simpleType name="incomeLevel">
    <xs:restriction base="xs:int">

            <xs:minInclusive value="7" />
            <xs:maxInclusive value="12" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="incomeLevel">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="7" />
    <xs:maxInclusive value="12" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: outcomeOfVisitId

Old:

```
<xs:simpleType name="outcomeOfVisitId">
    <xs:restriction base="xs:int">
        <xs:minInclusive value="2" />
        <xs:maxInclusive value="19" />
    </xs:restriction>
</xs:simpleType>
```

New: [Removed]

Explanation: outcomeOfVisitId simple type is no longer being used.

Simple Type Name: referredBy

Fields: Client_Profile.Client_Referred_By

Old:

```
<xs:simpleType name="referredBy">
    <xs:restriction base="xs:int">

            <xs:minInclusive value="2" />
            <xs:maxInclusive value="9" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="referredBy">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="2" />
    <xs:maxInclusive value="9" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: race

Fields: Client_Profile.Client_Race_ID; Attendee. Attendee_Race_ID

Old:

```
<xs:simpleType name="race">
    <xs:restriction base="xs:int">

            <xs:minInclusive value="1" />
            <xs:maxInclusive value="12" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="race">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="12" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: financeType

Fields: Client_Profile.Client_Finance_Type_Before; Client_Profile.Client_Finance_Type_After

Old:

```
<xs:simpleType name="financeType">
    <xs:restriction base="xs:int">

            <xs:enumeration value="6" />
            <xs:enumeration value="8" />
            <xs:enumeration value="9" />
            <xs:enumeration value="10" />
            <xs:enumeration value="11" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="financeType">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:enumeration value="6" />
    <xs:enumeration value="8" />
    <xs:enumeration value="9" />
    <xs:enumeration value="10" />
    <xs:enumeration value="11" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: month

Fields: AgencyProfileData.Reported_Month

Old:

```
<xs:simpleType name="month">
    <xs:restriction base="xs:int">

        <xs:minInclusive value="1" />
        <xs:maxInclusive value="12" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="month">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="12" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: state

Fields: AgencyProfileData.Agency_Physical_State; AgencyProfileData.Agency_Mailing_State; AgencyProfileData.Contact_State; Client_Profile.Client_State; Client_Profile.Client_New_State; Group_Session_Attendee.Attendee_State; Attendee. Attendee_State

Old:

```
<xs:simpleType name="state">
    <xs:restriction base="xs:int">

            <xs:totalDigits value="2" />
            <xs:minInclusive value="1" />
            <xs:maxInclusive value="61" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="state">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:totalDigits value="2" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="61" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: interestRate

Fields: Client_Profile.Client_Mortgage_Interest_Rate

Old:

```
<xs:simpleType name="interestRate">
    <xs:restriction base="xs:string">
        <xs:pattern value="[0-9]{1,2}.[0-9]{3}" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="interestRate">
  <xs:restriction base="xs:string">
    <xs:pattern value="[0-9]{1,2}.[0-9]{1,3}" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: The interestRate type has been changed from requiring 3 digits after the decimal place to requiring 1, 2 or 3 digits after the decimal place.

Simple Type Name: cmsType

Old:

```
<xs:simpleType name="cmsType">
    <xs:restriction base="xs:int">
        <xs:totalDigits value="3" />
    </xs:restriction>
</xs:simpleType>
```

New: [Removed]

Explanation: cmsType simple type is no longer being used.

Simple Type Name: contactType

Field: Agency_Contact.Contact_Type

Old:

```
<xs:simpleType name="contactType">
    <xs:restriction base="xs:long">

            <xs:enumeration value="2" />
            <xs:enumeration value="3" />
            <xs:enumeration value="11" />
    </xs:restriction>
```

New:

```
<xs:simpleType name="contactType">
  <xs:restriction base="xs:long">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:enumeration value="2" />
    <xs:enumeration value="3" />
    <xs:enumeration value="11" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: educationLevel

Field: Client_Profile.Client_Highest_Educ_Grade

Old:

```
<xs:simpleType name="educationLevel">
    <xs:restriction base="xs:int">

            <xs:minInclusive value="1" />
            <xs:maxInclusive value="8" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="educationLevel">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="8" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: mortgageType

Fields: Client_Profile.Client_Mortgage_Type; Client_Profile.Client_Mortgage_Type_After

Old:

```
<xs:simpleType name="mortgageType">
    <xs:restriction base="xs:int">

        <xs:minInclusive value="1" />
        <xs:maxInclusive value="13" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="mortgageType">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="13" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: refId

Fields: Agency_Counseling_Methods.Counseling_Method; Client_Profile.Client_ID_Num; Client_Profile.Client_Case_Num; Client_Profile.Client_Head_Of_Household_Type; Client_Profile.Client_Counselor_ID; Client_Profile.Client_No_Credit_Score_Reason; Client_Profile.Client_Credit_Score_Source; Client_Profile.Client_Purpose_Of_Visit; Counselor_Profile. CMS_Counselor_Id; Counselor_Service_Types.Service_Type; Counselor_Training.Counselor_Training; Counselor_Training.Counselor_Training.Counselor_Training; Counselor_Training_Course.Counselor_Training_Course_Id; Form_9902.Report_Period_Id; Group_Session.Group_Session_Counselor_Id; Group_Session_Attendee.Attendee_Id; Attendee.Attendee_Id

Old:

```
<xs:simpleType name="refId">
    <xs:restriction base="xs:long">

        <xs:totalDigits value="18" />
        <xs:minInclusive value="0" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="refId">
  <xs:restriction base="xs:long">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:totalDigits value="18" />
    <xs:minInclusive value="0" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: shortRefId

Fields: Agency_Contact.Contact_Title; Group_Session.Group_Session_Type; Group_Session.Group_Session_Attribute_HUD_Grant; Group_Session_Attendee.Attendee_Referred_By

Old:

```
<xs:simpleType name="shortRefId">
    <xs:restriction base="xs:int">

        <xs:totalDigits value="2" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="shortRefId">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:totalDigits value="2" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: languageId

Fields: Agency_Languages.Language; Client_Profile.Client_Language_Spoken; Counselor_Languages.Language

Old:

```
<xs:simpleType name="languageId">
    <xs:restriction base="xs:int">

        <xs:totalDigits value="2" />
        <xs:minInclusive value="2" />
        <xs:maxInclusive value="28" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="languageId">
   <xs:restriction base="xs:int">
      <xs:pattern value="(0)|([1-9][0-9]*)" />
      <xs:totalDigits value="2" />
      <xs:minInclusive value="2" />
      <xs:maxInclusive value="28" />
   </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: sessionDuration

Fields: Counselor_Training_Course.Counselor_Training_Duration; Group_Session.Group_Session_Duration

Old:

```
<xs:simpleType name="sessionDuration">
    <xs:restriction base="xs:int">

            <xs:totalDigits value="4" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="sessionDuration">
   <xs:restriction base="xs:int">
      <xs:pattern value="(0)|([1-9][0-9]*)" />
      <xs:totalDigits value="4" />
   </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: groupSessionType

Old:

```
<xs:simpleType name="groupSessionType">
    <xs:restriction base="xs:int">
        <xs:minInclusive value="10" />
        <xs:maxInclusive value="18" />
    </xs:restriction>
</xs:simpleType>
```

New: [Removed]

Explanation: groupSessionType simple type is no longer being used.

Simple Type Name: numericFieldValue

Fields: Client_Profile.Client_Family_Size; Client_Profile.Client_Household_Gross_Monthly_Income; Client_Profile.Client_Dependents_Num; Client_Profile.Client_Session_Duration; Client_Profile.Client_Counseling_Fee; Client_Profile.Client_Mortgage_Closing_Cost; Client_Profile.Client_Job_Duration; Client_Profile.Client_Credit_Score; Client_Profile.Client_Household_Debt; form9902Field.

Old:

```
<xs:simpleType name="numericFieldValue">
    <xs:restriction base="xs:long">

            <xs:totalDigits value="15" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="numericFieldValue">
  <xs:restriction base="xs:long">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:totalDigits value="15" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: hudAssistance

Field: Client_Profile.Client_HUD_Assistance

Old:

```
<xs:simpleType name="hudAssistance">
    <xs:restriction base="xs:int">

            <xs:minInclusive value="2" />
            <xs:maxInclusive value="8" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="hudAssistance">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="2" />
    <xs:maxInclusive value="8" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: activityTypeId

Fields: Client_Profile.Client_Activity_Type; form9902Field.activity_type_id;
Group_Session.Group_Session_Activity_Type

Old:

```
  <xs:simpleType name="activityTypeId">
      <xs:restriction base="xs:int">

          <xs:totalDigits value="3" />
      </xs:restriction>
  </xs:simpleType>
```

New:

```
 <xs:simpleType name="activityTypeId">
   <xs:restriction base="xs:int">
     <xs:pattern value="(0)|([1-9][0-9]*)" />
     <xs:totalDigits value="3" />
   </xs:restriction>
 </xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: loanIntakeTypeId

Field: Client_Profile.Client_Intake_Loan_Type

Old:

```
<xs:simpleType name="loanIntakeTypeId">
    <xs:restriction base="xs:int">

          <xs:minInclusive value="1" />
          <xs:maxInclusive value="10" />
      </xs:restriction>
  </xs:simpleType>
```

New:

```
 <xs:simpleType name="loanIntakeTypeId">
   <xs:restriction base="xs:int">
     <xs:pattern value="(0)|([1-9][0-9]*)" />
     <xs:minInclusive value="1" />
     <xs:maxInclusive value="10" />
   </xs:restriction>
 </xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Simple Type Name: impactId

Field: Client_Impacts.Client_Impact

Old:

```
<xs:simpleType name="impactId">
    <xs:restriction base="xs:int">

        <xs:minInclusive value="1" />
        <xs:maxInclusive value="13" />
    </xs:restriction>
</xs:simpleType>
```

New:

```
<xs:simpleType name="impactId">
  <xs:restriction base="xs:int">
    <xs:pattern value="(0)|([1-9][0-9]*)" />
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="13" />
  </xs:restriction>
</xs:simpleType>
```

Explanation: Change disallows for octal value to be submitted.

Attachment B – Changes to ARM Schema – client_profile_databag_5_0.xsd

Element Name: Client_Gender

Old:

```
<xs:element name="Client_Family_Size" type="st:numericFieldValue" minOccurs="0" />
<xs:element name="Client_Gender" type="st:gender" />
<xs:element name="Client_Marital_Status" type="st:maritalStatus" />
<xs:element name="Client_Race_ID" type="st:race" />
```

New:

```
<xs:element name="Client_Email" type="st:email" minOccurs="0" />
<xs:element name="Client_Family_Size" type="st:numericFieldValue" minOccurs="0" />
<xs:element name="Client_Gender" type="st:gender" minOccurs="0" />
<xs:element name="Client_Marital_Status" type="st:maritalStatus" />
<xs:element name="Client_Race_ID" type="st:race" />
```

Explanation: Client_Gender field is now optional.

Element Name: Client_9902_Reporting_Qtr

Old:

```
<xs:element name="Client_Purpose_Of_Visit" type="st:refId"/>
<xs:element name="Client_Activity_Type" type="st:activityTypeId" />

<xs:element name="Client_Impacts"  minOccurs="0" >
    <xs:complexType>
```

New:

```
<xs:element name="Client_Purpose_Of_Visit" type="st:refId"/>
<xs:element name="Client_Activity_Type" type="st:activityTypeId" />
<xs:element name="Client_9902_Reporting_Qtr" type="st:refId" minOccurs="0" />
<xs:element name="Client_Impacts"  minOccurs="0" >
    <xs:complexType>
```

Explanation: New field Client_9902_Reporting_Qtr has been added as optional with plans to be required in the future. The field should include the report_period_id reference value for the 9902 reporting quarter that the counseling activity is to be initially reported for.