**SMARTERAPP INTERFACE SPECIFICATION**

**for**

**TEST DELIVERY TO TEST INTEGRATION**

**AND**

**TEST INTEGRATION TO DATA WAREHOUSE**

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Revision History

|  |  |  |
| --- | --- | --- |
| Revision Description | Author/Modifier | Date |
| 0.1: Initial Release (DRAFT) | Rami Levy | April 28, 2014 |
| 0.2: Clarified that this specification covers both the TDS-to-TIS and TIS-to-DW interfaces, as they are exactly the same. | Rami Levy | July 8, 2014 |
| 0.3: Removed Opportunity/windowStart | Rami Levy | July 18, 2014 |
| 0.4: Added/updated complete list of acceptable values for ExamineeAttributes and Accommodations | Rami Levy | August 3, 2014 |
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Table of Contents

Purpose 3

References 3

Test Integration Data Flow Overview 4

Test Integration Format Specification 6

Test Integration Format XSD 25

Sample XML Output 33

# Purpose

The purpose of this document is to provide a format specification describing the output of the Test Delivery System (TDS), which feeds into the Test Integration System (TIS), which feeds into the Data Warehouse (DW). The interface is exactly the same for both; that is, the TDS output contains the complete specification for TDS-to-TIS and TIS-to-DW. The specification includes a table describing each XML node and attribute. In addition, the XSD and a sample XML file are included for reference.

This specification represents the combined work of Smarter Balanced and various vendors working on related contracts.

# References

|  |  |  |  |
| --- | --- | --- | --- |
| Ref | Reference | Author | Version |
| 1 | Common Education Data Standards (CEDS) specification (https://ceds.ed.gov/elements.aspx) | ceds.ed.gov | 4.0 |
| 2 | Administration And Registration Tool Upload File Formats | AIR / Smarter Balanced | 0.3 |

# Test Integration Data Flow Overview

This document describes the data interface between the Test Integration component and one or more Data Warehouses (an interface labeled as arrow 8 in Figure 1).



Figure 1: Test Integration and Scoring Data Interfaces

Table 1 summarizes the elements in Figure 1 that are relevant to this document.

| Diagram Element | Description |
| --- | --- |
| Test Delivery (TDS) | Test Delivery is responsible for the real time, interactive portion of a student assessment. Test Delivery holds a student’s assessment result for a test opportunity until that opportunity has been completed. |
| Test Integration (TIS) | Test Integration holds an assessment result when the real time, interactive portion of the assessment is completed. |
| Test Integration Database | The Test Integration Database stores: (1) in-process assessments that have items that are awaiting are awaiting scoring by external scoring engines, and (2) storing configuration information about how to process assessment opportunities for particular assessments. The configuration information about a particular assessment is provided by a test package via the Admin UI that contains the scoring rules. |
| External Scoring Engines | External Scoring Engines are typically hand scoring systems, but may also be other types of item scoring engines such as automated essay scoring engines that may take more time than is reasonable to be used during a live assessment event. There is no vendor that is building these scoring engines, so AIR will design the protocol to these scoring engines and develop a stub that satisfies the other end of this protocol. |
| Data Warehouse (DW) | The Data Warehouse is being developed for Smarter Balanced under Contract 15. The Test Integration component will deliver fully scale scored XML documents to the Data Warehouse that represents a complete test opportunity for a student. |
| Test Scoring | The Test Scoring component is responsible for scale scoring an assessment based on preconfigured scoring rules that are provided by means of test packages authored by Test Authoring and stored in the Test Spec Bank. |
| Scoring Configs Database | The Scoring Configs Database stores scoring configurations that the Test Scoring component uses to know how to score a particular assessment. The configuration information about a particular assessment is provided by a test package via the Admin UI that contains the scoring rules. |

Table 1: Component Definitions

Test Integration receives the completed assessment from Test Delivery (arrow 5), delivers responses to external scoring engines (arrow 6), receives and collates results from external scoring engines (arrow 4). *The interfaces associated to arrows 5 and 8 are identical and are specified in this document*. Their format has been designed with optimal flexibility, in order to capture information for any type of assessment. For this reason, many of the nodes and attributes are normalized to name/value pairs, rather than being hard-coded to accept specific data fields.

## Test Integration Data Format Conventions

Table 2 provides information regarding the XML output format and its associated XSD, such as the allowable values, sizes, and descriptions, as well as any standards alignment. Also included in this document are the XSD and a sample XML output. The fields in Table 2 below follow these conventions:

* **Case sensitivity**: Field names are case sensitive and follow the guideline that the XML *Node/Element* is in UpperCamelCase, while node *attributes* are in lowerCamelCase.
* **Order sensitivity**: Fields are not order-sensitive.
* **Non-required (optional) fields**: By default, these fields do not need to be included in the XML file. A missing optional field is simply treated as not present or not applicable.
* **Cardinality**: The number of possible instances of a particular node is defined clearly in the XSD (see Test Integration Format XSD).

# Test Integration Format Specification

| Category / Node (XML Element) | TDS Field Name (attribute) | XML Hierarchy | Width (chars) | Required | Data Element Description | Acceptable Values | Data Type | Reference |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test | name | TDSReport:Test | 250 | Y | Name of the test. This usually consists of the testID with some extra information indicating the client and the season. E.g. (Oregon)OAKS-Math-5-Fall-2012-2013 | one or more printable ASCII characters | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment Administration -> AssessmentAdministrationName  ID #977 |
|  | subject |  | 10 | Y | Subject of the test. E.g. ELPA or MA. | one or more printable ASCII characters | xsd:token |  |
|  | testId |  | 255 | Y | The Test Authoring ID of the test, independent of client, season and year | one or more printable ASCII characters | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment -> AssessmentIdentifier  ID #1067 |
|  | bankKey |  | 8 | Y | ITS bank of blueprint. This value may be deprecated and eventually removed. | positive 32-bit integer | xsd:unsignedInt | Used for the Spring 2014 Field Test, but not on operational tests. |
|  | handScoreProject |  | 8 | N | If this test has items that need to be scored by hand, this is the ID of the handscore project (either in own handscoring center, or an ID to identify a subcontractor's handscoring project). | positive 32-bit integer | xsd:unsignedInt |  |
|  | contract |  | 100 | N | Contract of this test (e.g. ELPA or OAKS for Oregon's tests). | one or more printable ASCII characters | xsd:token |  |
|  | mode |  | 50 | Y | Mode of the test. Either 'online', 'paper' or 'scanned'. Here 'paper' means it was a data entry test (meaning the student took the test on paper and someone else then entered the responses in the online system). | online paper scanned | xsd:token |  |
|  | grade |  | 100 | Y | Tested grade. | IT - Infant/toddler PR - Preschool PK - Prekindergarten TK - Transitional Kindergarten  KG - Kindergarten 01 - First grade 02 - Second grade 03 - Third grade 04 - Fourth grade 05 - Fifth grade 06 - Sixth grade 07 - Seventh grade 08 - Eighth grade 09 - Ninth grade 10 - Tenth grade 11 - Eleventh grade 12 - Twelfth grade 13 - Grade 13 PS - Postsecondary UG - Ungraded | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment -> AssessmentLevelForWhichDesigned  ID #177 |
|  | assessmentType |  | 20 | Y | Type of assessment | one or more printable ASCII characters, preferably from the list in CEDS.  Examples:  Summative Formative Interim | xsd:token | [CEDS [1]: K12 -> Assessments -> Assessment -> AssessmentType  ID #29 |
|  | academicYear |  | 4 | Y | Current academic year | 1900 <= YYYY <= 9999 | xsd:integer | CEDS [1]: K12 -> K12 School -> Session -> SchoolYear  ID #243 |
|  | assessmentVersion |  | 30 | Y | Version of this assessment | string | xsd:token |  |
| Examinee | key | TDSReport: Examinee | 16 | N | Internal examinee key | UUID – 36 characters | xsd:token |  |
| ExamineeAttribute | name | TDSReport: Examinee : ExamineeAttribute | 50 | Y | Name of the attribute. | LastOrSurname  FirstName  MiddleName  Birthdate  StudentIdentifier  AlternateSSID  GradeLevelWhenAssessed  Sex  HispanicOrLatinoEthnicity  AmericanIndianOrAlaskaNative  Asian  BlackOrAfricanAmerican  White  NativeHawaiianOrOtherPacificIslander  DemographicRaceTwoOrMoreRaces  IDEAIndicator  LEPStatus  Section504Status  EconomicDisadvantageStatus  LanguageCode  EnglishLanguageProficiencyLevel  MigrantStatus  FirstEntryDateIntoUSSchool  LimitedEnglishProficiencyEntryDate  LEPExitDate  TitleIIILanguageInstructionProgramType  PrimaryDisabilityType | xsd:token | CEDS [1] and ART spec [2] |
|  | value |  | 500 | Y | attribute value | varies per attribute | xsd:token |  |
|  | *context* |  | 50 | Y | Context of the attribute (currently either INITIAL or FINAL). | INITIAL FINAL | xsd:token | - |
|  | *contextDate* |  | 23 | Y | Date and time the attribute was fetched from TR | time+date | xsd:dateTime | - |
| ExamineeRelationship | entityKey | TDSReport: Examinee: ExamineeRelationship | 22 | Y | TR unique identifier | entity identifier + state abbreviation | xsd:token |  |
|  | name |  | 100 | Y | Name of the attribute. | DistrictID DistrictName SchoolID SchoolName StateName GroupId GroupText | xsd:token |  |
|  | value |  | 500 | Y | attribute value | one or more printable ASCII characters | xsd:token |  |
|  | *context* |  | 50 | Y | Context of the attribute (currently either INITIAL or FINAL). | INITIAL FINAL | xsd:token |  |
|  | *contextDate* |  | 23 | Y | Date and time the attribute was fetched from TR | date+time | xsd:dateTime | - |
| Opportunity | server | TDSReport: Opportunity | 128 | Y | Name of the TDS server that was used to administer this test. | one or more printable ASCII characters | xsd:token |  |
|  | database |  | 128 | N | Name of the TDS DB that was used to administer this test. | zero or more printable ASCII characters | xsd:token |  |
|  | key |  | 36 | Y | A globally unique identifier for the opportunity (GUID) | one or more printable ASCII characters | xsd:token |  |
|  | oppId |  | 16 | Y | Opportunity ID, formerly known as vndr\_test\_event\_id. A unique identifier (within client) of the test opportunity. | Positive 64-bit integer | xsd:unsignedLong |  |
|  | startDate |  | 23 | Y | Date and time the student started the opportunity. | date+time | xsd:dateTime | CEDS [1]: K12 -> Assessments -> Assessment Administration  ID #962, #963 |
|  | status |  | 50 | Y | Status of the opportunity. | appeal completed expired handscoring invalidated paused reported reset scored  submitted | xsd:token |  |
|  | opportunity |  | 8 | Y | A counter that counts the number of times a student has taken this test. | positive 32-bit integer | xsd:unsignedInt |  |
|  | statusDate |  | 23 | Y | The date and time the status of this opportunity last changed. Generally this is close to the opportunityDateCompleted, but it can be much later, e.g. for resets, invalidations, hand scores being added, etc. | date+time | xsd:dateTime | - |
|  | dateCompleted |  | 23 | N | Date the student submitted the opportunity for scoring. | date+time | xsd:dateTime | CEDS [1]: K12 -> Assessments -> Assessment Administration  ID #964 |
|  | pauseCount |  | 8 | Y | number of times Examinee paused the opportunity | positive 32-bit integer | xsd:unsignedInt |  |
|  | itemCount |  | 8 | Y | Number of items in the XML file. Note these are presented items plus prefetched items (there could be items the student never saw). | positive 32-bit integer | xsd:unsignedInt |  |
|  | ftCount |  | 8 | Y | number of field test items in count | positive 32-bit integer | xsd:unsignedInt |  |
|  | abnormalStarts |  | 8 | Y | The number of times the test was restarted after an abrupt end to a test (browser crash, power shutdown, network loss etc.). | positive 32-bit integer | xsd:unsignedInt |  |
|  | gracePeriodRestarts |  | 8 | Y | The number of times the student paused the test and restarted it within the grace period (20 minutes). | positive 32-bit integer | xsd:unsignedInt |  |
|  | TAID |  | 128 | N | ID of the Test Administrator that administered this test (often the TA's e-mail address) | zero or more printable ASCII characters | xsd:token | CEDS [1]: K12 -> K12 Staff -> Contact -> Email  ID #88 |
|  | TAName |  | 128 | N | Name of the Test Administrator that administered this test. | zero or more printable ASCII characters | xsd:token |  |
|  | sessionId |  | 128 | N | TDS's ID for the session in which this test was taken. | zero or more printable ASCII characters | xsd:token |  |
|  | windowId |  | 50 | Y | the ID of the window in which the test was administered (E.g. EOC-Spring) | one or more printable ASCII characters | xsd:token |  |
|  | windowOpportunity |  | 8 | N | A counter that counts the number of times a student has taken this test in this window. | zero or more printable ASCII characters | xsd:token |  |
|  | dateForceCompleted |  | 8 | N | If a test is actually complete (all items responded to) at the time it expires it might (depending on per-client configuration) instead be "force completed". That is, it is submitted for the student. It will not have status 'expired', but 'scored'. This is the date the "force completion" was done. | date+time | xsd:dateTime |  |
|  | clientName |  | 255 | Y | Name of the client this test is for (e.g. Oregon). | one or more printable ASCII characters | xsd:token |  |
|  | assessmentParticipantSessionPlatformUserAgent |  | 512 | Y | A list of product tokens (keywords) with optional comments that identifies the client hardware and software with which the assessment was delivered to the student during the assessment session.Implementation Note: The recommended approach is to store the User-Agent string returned as part of an HTTP header. For example, an assessment session delivery via iPad might have "Mozilla/5.0 (iPad; U; CPU OS 3\_2\_1 like Mac OS X; en-us) AppleWebKit/531.21.10 (KHTML, like Gecko) Mobile/7B405" | <User-Agent string> | xsd:string | CEDS [1]: K12 -> Assessments -> Assessment Participant Session -> AssessmentParticipantSessionPlatformUserAgent  ID #1152 |
| Segment | id | TDSReport: Opportunity: Segment | 250 | Y | Segment the item was administered on. | one or more printable ASCII characters | xsd:token |  |
|  | position |  | 8 | Y | Position of the segment on the test. | positive 32-bit integer, null allowed | xsd:unsignedInt |  |
|  | formKey |  | 100 | N | ITS key of the form (if algorithm = fixedform). | one or more printable ASCII characters | xsd:token |  |
|  | formId |  | 150 | N | If the algorithm is fixedform then this is the ID of the form for the segment. Otherwise null. | one or more printable ASCII characters | xsd:token |  |
|  | algorithm |  | 50 | Y | Item selection algorithm that was used for this segment. | one or more printable ASCII characters | xsd:token |  |
|  | algorithmVersion |  | 50 | Y | Item selection algorithm version | one or more printable ASCII characters | xsd:token |  |
| Accommodation | type | TDSReport: Opportunity: Accommodation | 510 | Y | accommodation type (e.g. 'ColorContrast') | AmericanSignLanguage  ColorContrast  ClosedCaptioning  Language  Masking  PermissiveMode  PrintOnDemand  PrintSize  StreamlinedInterface  TexttoSpeech  Translation (Glossary)  NonEmbeddedDesignatedSupports  NonEmbeddedAccommodations  Other | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment Participant Session  ID #385  And ART spec [2] |
|  | value |  | 510 | Y | accommodation value (e.g. 'Magenta'). Note that there is a one to one relationship between value and code. | one or more printable ASCII characters | xsd:token |  |
|  | code |  | 510 | Y | Accommodation code (e.g. 'TDS\_CCMagenta') | one or more printable ASCII characters | xsd:token |  |
|  | segment |  | 8 | Y | Segment number the accomodation applies to. A 0 means the accomodation applies to the entire test (all segments). | positive 32-bit integer, Null allowed | xsd:unsignedInt |  |
|  | *context* |  | 50 | Y | Context of the attribute (currently either INITIAL or FINAL). | INITIAL FINAL | xsd:token |  |
|  | *contextDate* |  | 23 | Y | Date and time the attribute was fetched from TR | date+time | xsd:dateTime |  |
| Score | measureOf | TDSReport: Opportunity: Score | 150 | Y | The set of items this value measures. Usually a strand or an AffinityGroup. E.g. Overall or Mathematics-10.2 or Listening. | one or more printable ASCII characters | xsd:token |  |
|  | measureLabel |  | 150 | Y | Label of this measure. E.g. ScaleScore, PerformanceLevel, Attempted. | one or more printable ASCII characters | xsd:token |  |
|  | value |  | 64 | Y | Value of the measure. E.g. 1034 (for ScaleScore) or Y (for Attempted). | one or more printable ASCII characters | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment Item -> Assessment Item Response  ID #724 |
|  | standardError |  | 8 | N | Standard error of the measure. | float, null allowed | xsd:token |  |
| GenericVariable | context | TDSReport: Opportunity: GenericVariable | 50 | Y | This node is optional but if used all of these attributes are required | one or more printable ASCII characters | xsd:token |  |
|  | name |  | 50 | Y | general use | one or more printable ASCII characters | xsd:token |  |
|  | value |  | 255 | Y | general use | one or more printable ASCII characters | xsd:string |  |
| Item | position | TDSReport: Opportunity: Item | 8 | Y | ordinal position of item on test | positive 32-bit integer, null allowed | xsd:unsignedInt |  |
|  | segmentId |  | 250 | Y | Segment the item was administered on. | one or more printable ASCII characters | xsd:token |  |
|  | bankKey |  | 40 | Y | Permits items from multiple Item Authoring banks | one or more printable ASCII characters | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment Item  ID #1181  Used only in the Spring 2014 field test. |
|  | key |  | 40 | Y | internal ID from Item Authoring. This is the item identifier. | UUID – 36 characters | xsd:token |  |
|  | clientId |  | 80 | N | how client identifies the item | one or more printable ASCII characters | xsd:token |  |
|  | operational |  | 8 | Y | 1 if operational, 0 if field test | 0,1 | xsd:unsignedInt |  |
|  | isSelected |  | 8 | Y | Whether the student submitted his response for scoring or not. Possible values 0 (not submitted) or 1 (submitted). | 0,1 | xsd:unsignedInt |  |
|  | format |  | 50 | Y | Item type (e.g. MC (multiple choice) or GI (grid item)). | associateInteraction choiceInteraction customInteraction drawingInteraction endAttemptInteraction extendedTextInteraction gapMatchInteraction graphicAssociateInteraction graphicGapMatchInteraction graphicOrderInteraction hotspotInteraction hottextInteraction inlineChoiceInteraction matchInteraction mediaInteraction orderInteraction positionObjectInteraction selectPointInteraction sliderInteraction textEntryInteraction uploadInteraction EBSR EQ ER GI HT HTQ MC MI MS NL SA TI TUT WER WORDLIST Stimulus | xsd:token | CEDS [1]: K12 -> Assessments -> Assessment Item -> Assessment Item APIP Interaction  ID #1158 |
|  | score |  | 8 | Y | number of scorepoints earned by Examinee. -1 means not scored | unsigned float, -1 allowed | xsd:float |  |
|  | scoreStatus |  | 50 | N | Provided by independent item scoring engine | NOTSCORED SCORED SCORINGERROR WAITINGFORMACHINESCORE |  |  |
|  | adminDate |  | 23 | Y | Date and time item was administered to Examinee | date+time | xsd:dateTime |  |
|  | numberVisits |  | 8 | Y | Number of times the student modifies his response to the item. | positive 32-bit integer | xsd:unsignedInt |  |
|  | mimeType |  | 255 | Y | MIME type of item response. | one or more printable ASCII characters |  |  |
|  | strand |  | 150 | Y | Top level strand in the strand hierarchy the item is on. | one or more printable ASCII characters |  |  |
|  | contentLevel |  | 150 | Y | Lowest level strand in the strand hierarchy the item is part of. | one or more printable ASCII characters |  |  |
|  | pageNumber |  | 8 | Y | Number of the (online) page the item appears on. | positive 32-bit integer | xsd:unsignedInt |  |
|  | pageVisits |  | 8 | Y | Number of times the student visited the (online) page this item is on. | positive 32-bit integer | xsd:unsignedInt |  |
|  | pageTime |  | 8 | Y | Time (in milliseconds) the student spent on the (online) page this item is on. | signed 32-bit integer | xsd:int |  |
|  | dropped |  | 8 | Y | Whether the item is dropped. If an item was administered but later inactivated the DW might receive a new record with this flag turned on. | 0 or 1 | xsd:unsignedInt |  |
| Response | type | TDSReport: Opportunity: Item: Response | 10 | N | Type of responseValue. Possible values 'value' or 'reference'. 'reference' is used for scanned paper tests where the scanned response is not included, but only a reference to the file containing the scanned response. | value reference <blank allowed> | xsd:token |  |
|  | <node text> |  | unlimited | N | If responseType is 'value', then the actual response. Note that both MC responses and CR responses are captured here. If responseType is 'reference' then the filename where the scanned response is saved. |  | xsd:string | CEDS [1]: K12 -> Assessments -> Assessment Item -> Assessment Item Response  ID #724 |
|  | date |  | 23 | N | Date and time the student responded to the item | date+time | xsd:dateTime | CEDS [1]: K12 -> Assessments -> Assessment Item -> Assessment Item Response  ID #959, #958 |
| ScoreInfo | scorePoint | TDSReport: Opportunity: Item: ScoreInfo | 8 | N | Output of the machine scorer giving reasons for the assigned score. Now also contains dimension scores for certain items. | float, -1 allowed | xsd:float |  |
|  | scoreDimension |  | 255 | N | Dimension the score is for. | one or more printable ASCII characters | xsd:token |  |
|  | scoreStatus |  | 22 | N | Provided by independent item scoring engine | NotScored Scored ScoringError WaitingForMachineScore | xsd:token |  |
|  | conditionCode |  | 1 | N | For hand-scored items and machine-scored NL items | A-Z | xsd:token |  |
| ScoreRationale | <node text> | TDSReport: Opportunity: Item: ScoreInfo: ScoreRationale | unlimited | N |  |  | xsd:string |  |
| SubScoreList |  | TDSReport: Opportunity: Item: ScoreInfo: ScoreRationale: SubScoreList |  | N | SubsccoreList has no attrs, but can have nested ScoreInfo nodes for multi-dimensional items. |  |  |  |
| Comment | context | TDSReport: comment | 200 | Y | Context of the comment (e.g. TESTITEM or GlobalNotes). | one or more printable ASCII characters | xsd:token |  |
|  | itemPosition |  | 8 | Y | If this was an item level comment (context = TESTITEM), the position of the item the comment was for. | positive 32-bit integer, Null allowed | xsd:unsignedInt |  |
|  | date |  | 23 | Y | Date and time comment was entered. | date+time | xsd:dateTime |  |
|  | <node text> |  | unlimited | N |  |  | xsd:string |  |
| Score | value | TDSReport: Opportunity: score | 10 | Y | Score (or ConditionCode if type isn't Final). | one or more printable ASCII characters | xsd:token |  |
|  | compName |  | 50 | Y | Component name. Dimension: if the score is a dimension score. ScorePoints: if there are no dimensions and this is just a score for the whole item. ConditionCodes: if the score value is actually a condition code (these usually apply to all dimensions). | one or more printable ASCII characters | xsd:token |  |
|  | dimension |  | 50 | Y | Dimension the score is for. | one or more printable ASCII characters | xsd:token |  |
|  | sequence |  | 8 | Y | Used to count backreads. 1 for all other types. | positive 32-bit integer | xsd:unsignedInt |  |
|  | conditionCode |  | 10 | N | Blank if this record is for a regular score, otherwise the condition code. Only used for final scores. | one or more printable ASCII characters | xsd:token |  |
|  | type |  | 50 | Y | Type of the score. | Initial Reliability Resolution Backread Final | xsd:token |  |
|  | userId |  | 50 | Y | ID of the scorer. | one or more printable ASCII characters | xsd:token |  |
|  | userLastName |  | 50 | N | Last name of the scorer. | one or more printable ASCII characters | xsd:token |  |
|  | userFirstName |  | 50 | N | First name of the scorer. | one or more printable ASCII characters | xsd:token |  |
| ToolUsage | toolType | TDSReport: ToolUsage | 100 | Y | Tools used on certain items or item groups (passages). For instance TTS (TextToSpeech). Type of the tool. | one or more printable ASCII characters | xsd:token |  |
|  | toolCode |  | 100 | Y | Code for the tool. | one or more printable ASCII characters | xsd:token |  |
| ToolPage | page | TDSReport: ToolUsage: ToolPage | 8 | Y | (Online) page the tool was used on. | positive 32-bit integer | xsd:unsignedInt |  |
|  | groupId |  | 59 | Y | Item or Passage ID | one or more printable ASCII characters | xsd:token |  |
|  | count |  | 8 | Y | Number of times the tool was used. | positive 32-bit integer | xsd:unsignedInt |  |

Table 2: Test Integration XML Output Format Description

The examineeAttribute values are the same as used for test registration. Student identity information (name, birthdate and studentIdentifier) is required at registration but may be removed before the data is transmitted from the test delivery system to the data warehouse. Removal is in accordance with local privacy policies. Fields for which this applies are marked “Reg – Y, Rep – N” in the “Required” column below.

| Attribute Name | Reference | Width | Required | Data Element Description | Type | Acceptable Values | Definitions | Examples | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| LastOrSurname | [CEDS ID 172](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5172)  K12->K12 Student->Identity->Name | 35 | Reg – Y Rep - N | Student Last Name | Alphanumeric/special  xsd:token | One or more printable ASCII characters |  | Sojka |  |
| FirstName | [CEDS ID 115](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5115) K12->K12 Student->Identity->Name | 35 | Reg – Y Rep - N | Student First Name | Alphanumeric/special  xsd:token | One or more printable ASCII characters |  | Bud |  |
| MiddleName | [CEDS ID 184](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5184) K12->K12 Student->Identity->Name | 35 | N | Student Middle Name | Alphanumeric/special  xsd:token | One or more printable ASCII characters |  | Johan |  |
| Birthdate | [CEDS ID 33](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5033) K12->K12 Student->Demographic | 10 | Reg – N Rep - N | The year, month and day on which a person was born, in the format YYYY-MM-DD (zero-padded) | Numeric+dash  xsd:string | 1900 <= YYYY <= 9999 01 <= MM <= 12 01 <= DD <= 31 |  | 2013-08-31 |  |
| StudentIdentifier | [CEDS ID 1071](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5157) K12->K12 Student->Identity->Identification | 40 | Reg – Y Rep - N | State assigned student Identifier which is unique within that state. Every student should have a unique SSID within their state. | Alphanum  xsd:token | One or more printable ASCII characters |  | 82811007 |  |
| AlternateSSID | N/A | 50 | Y | A State assigned student Identifier which is unique within that state. This identifier is used by states that do not wish to share student personal identifying information outside of state-deployed systems. Components sending data to Consortium-deployed systems would use this alternate identifier rather than the student's SSID. | Alphanum  xsd:token | One or more printable ASCII characters |  | 32547685ABC | . |
| GradeLevelWhenAssessed | [CEDS ID 126](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5126) K12 -> Assessments -> Assessment Registration | 2 | Y | Student's enrolled grade. | Alphanum  xsd:token | IT PR PK TK  KG 01  02  03 04 05 06 07 08 09 10 11 12 13 PS UG | IT - Infant/toddler PR - Preschool PK - Prekindergarten TK - Transitional Kindergarten  KG - Kindergarten 01 - First grade 02 - Second grade 03 - Third grade 04 - Fourth grade 05 - Fifth grade 06 - Sixth grade 07 - Seventh grade 08 - Eighth grade 09 - Ninth grade 10 - Tenth grade 11 - Eleventh grade 12 - Twelfth grade 13 - Grade 13 PS - Postsecondary UG - Ungraded | 05 |  |
| Sex | [CEDS ID 255](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5255) K12->K12 Student->Demographic | 6 | Y | Student's gender | enum  xsd:token | Male Female |  | Female |  |
| HispanicOrLatinoEthnicity | [CEDS ID 144](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5144) K12->K12 Student->Demographic | 3 | Y | Hispanic Ethnic Flag | enum  xsd:token | Yes No |  | No | One or more race fields (below) must also be marked 'Yes' |
| AmericanIndianOrAlaskaNative | [CEDS ID 16](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5655) K12->K12 Student->Demographic | 3 | Y | American Indian/Alaskan Native Race Flag | enum  xsd:token | Yes No |  | Yes | At least one race field must be marked Yes |
| Asian | [CEDS ID 20](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5656) K12->K12 Student->Demographic | 3 | Y | Asian Race Flag | enum  xsd:token | Yes No |  | No | At least one race field must be marked Yes |
| BlackOrAfricanAmerican | [CEDS ID 34](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5657) K12->K12 Student->Demographic | 3 | Y | African American Race Flag | enum  xsd:token | Yes No |  | Yes | At least one race field must be marked Yes |
| White | [CEDS ID 301](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5659) K12->K12 Student->Demographic | 3 | Y | White Race Flag | enum  xsd:token | Yes No |  | No | At least one race field must be marked Yes |
| NativeHawaiianOrOtherPacificIslander | [CEDS ID 192](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5658) K12->K12 Student->Demographic | 3 | Y | Native Hawaiian/Other Pacific Islander Race Flag | enum  xsd:token | Yes No |  | Yes | At least one race field must be marked Yes |
| DemographicRaceTwoOrMoreRaces | [CEDS ID 973](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5974) K12 -> K12 Student -> Demographic | 3 | Y | A person having origins in any of more than one of the racial groups. | enum  xsd:token | Yes No |  | Yes | At least one race field must be marked Yes |
| IDEAIndicator | [CEDS ID 151](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5151) K12->K12 Student->Disability | 3 | Y | Student Enrolled in IEP | enum  xsd:token | Yes No |  | No |  |
| LEPStatus | [CEDS ID 180](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5180) K12 -> K12 Student -> Limited English Proficiency | 3 | Y | Student identified as LEP | enum  xsd:token | Yes No |  | Yes |  |
| Section504Status | [CEDS ID 249](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5249) K12 -> K12 Student -> Disability | 22 | Y | Student with 504 plan | enum  xsd:token | Yes No Unknown/Cannot Provide |  | No |  |
| EconomicDisadvantageStatus | [CEDS ID 86](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5086) K12 -> K12 Student -> Economically Disadvantaged -> EconomicDisadvantageStatus | 3 | Y | An indication that the student met the State criteria for classification as having an economic disadvantage. | enum  xsd:token | Yes No |  | Yes | This field is not CEDS compliant due to the name change from TitleITargetedAssistanceParticipationStatus |
| LanguageCode | [CEDS ID 317](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5317) K12 -> K12 Student -> Language  and [CEDS Language Codes](https://ceds.ed.gov/languageCodes.aspx) | 3 | N | The code for the specific language or dialect that a person uses to communicate. | enum  xsd:token | see http://ceds.ed.gov/languageCodes.aspx |  | fiu |  |
| EnglishLanguageProficiencyLevel | N/A | 20 | N | An indication of the progress made by a student toward English proficiency | Alphanum  xsd:token | One or more printable ASCII characters |  | PROGRESS | This field is not CEDS compliant due to the name change from TitleIIIAccountabilityProgressStatus ([CEDS ID 536](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5527)). Furthermore, the Acceptable Values have changed to non-enum, alphanum entry. |
| MigrantStatus | [CEDS ID 189](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5189) K12 -> K12 Student -> Migrant -> MigrantStatus | 3 | N | Persons who are, or whose parents or spouses are, migratory agricultural workers, including migratory dairy workers, or migratory fishers, and who, in the preceding 36 months, in order to obtain, or accompany such parents or spouses, in order to obtain, temporary or seasonal employment in agricultural or fishing work (A) have moved from one LEA to another; (B) in a state that comprises a single LEA, have moved from one administrative area to another within such LEA; or (C) reside in an LEA of more than 15,000 square miles, and migrate a distance of 20 miles or more to a temporary residence to engage in a fishing activity. | enum  xsd:token | Yes No <blank> |  | Yes |  |
| FirstEntryDateIntoUSSchool | [CEDS ID 529](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5520) K12 -> K12 Student -> Immigrant | 10 | N | The year, month and day of a person's initial enrollment into a United States school. | Numeric+dash  xsd:string | YYYY-MM-DD <blank> |  | 2013-08-31 |  |
| LimitedEnglishProficiencyEntryDate | [CEDS ID 1247](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=6213) K12 -> K12 Student -> Limited English Proficiency | 10 | N | The year, month and day a student classified as limited English proficient entered the LEP program. | Numeric+dash  xsd:token | YYYY-MM-DD <blank> |  | 2013-08-31 |  |
| LEPExitDate | [CEDS ID 570](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5562) K12 -> K12 Student -> Limited English Proficiency | 10 | N | The year, month and day a student classified as limited English proficient exited the LEP program. | Numeric+dash  xsd:token | YYYY-MM-DD <blank> |  | 2013-08-31 |  |
| TitleIIILanguageInstructionProgramType | [CEDS ID 447](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5437) K12 -> K12 School -> Institution Characteristics | 27 | N | Title III Language Instruction Program Type | enum  xsd:token | DualLanguage, TwoWayImmersion, TransitionalBilingual, DevelopmentalBilingual, HeritageLanguage, ShelteredEnglishInstruction, StructuredEnglishImmersion, SDAIE, ContentBasedESL, PullOutESL, Other | DualLanguage - Dual language TwoWayImmersion - Two-way immersion TransitionalBilingual - Transitional bilingual DevelopmentalBilingual - Developmental bilingual HeritageLanguage - Heritage language ShelteredEnglishInstruction - Sheltered English instruction StructuredEnglishImmersion - Structured English immersion SDAIE - Specially designed academic instruction delivered in English (SDAIE) ContentBasedESL - Content-based ESL PullOutESL - Pull-out ESL Other - Other | HeritageLanguage |  |
| PrimaryDisabilityType | [CEDS ID 218](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5218) K12 -> K12 Student -> Disability | 3 | N | The major or overriding disability condition that best describes a person's impairment. | enum  xsd:token | AUT, DB, DD, EMN, HI, ID, MD, OI, OHI, SLD, SLI, TBI, VI | AUT - Autism DB - Deaf-blindness DD - Developmental delay EMN - Emotional disturbance HI - Hearing impairment ID - Intellectual Disability MD - Multiple disabilities OI - Orthopedic impairment OHI - Other health impairment SLD - Specific learning disability SLI - Speech or language impairment TBI - Traumatic brain injury VI - Visual impairment | EMN |  |
| Delete | N/A | 6 | N | Delete this record iff value = DELETE | Alpha  xsd:token | DELETE <blank> or other value | DELETE: Delete record Any other value or <blank>: add/update as necessary | DELETE |  |

Table 3: examineeAttribute Detail

**The following table offers detail about the examineeRelationship attributes.**

| Attribute Name | Reference | Width | Required | Data Element Description | Type | Acceptable Values | Definitions | Examples | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| StateAbbreviation | [CEDS ID 267](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5267) K12 -> SEA -> Address [USPS](https://www.usps.com/send/official-abbreviations.htm) | 2 | Y | 2 character state code | enum  xsd:token | Two-character US State identifier as defined by CEDS and extended as follows: AA, AE, AP, TS, OT. | AA: Armed Forces Americas AE: Armed Forces Africa, Canada, Europe and Mideast AP: Armed Forces Pacific TS: Test State OT: Other | WA |  |
| DistrictID | [CEDS ID 637](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5639)  K12 -> K12 Student -> Enrollment | 40 | Y | The district responsible for specific educational services and/or instruction of the student. | Alphanum  xsd:token | One or more printable ASCII characters |  | 71715 |  |
| DistrictName |  |  |  |  |  |  |  |  |  |
| SchoolID | [CEDS ID 1069](https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=5155)  K12->K12 Student->Enrollment | 40 | Y | The school responsible for specific education services and/or instruction of the student. | Alphanum  xsd:token | One or more printable ASCII characters |  | 8716411 |  |
| SchoolName |  |  |  |  |  |  |  |  |  |
| GroupId |  |  |  |  |  |  |  |  |  |
| GroupText |  |  |  |  |  |  |  |  |  |

Table 4: examineeRelationship Detail

# Test Integration Format XSD

The following section contains the XSD describing the TDSReport XML file, which is the file sent by the Test Integration component to the Data Warehouse(s).

<?xml version="1.0" encoding="UTF-8"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">

<xs:element name="TDSReport">

<xs:complexType>

<xs:sequence>

<xs:element name="Test" minOccurs="1" maxOccurs="1">

<xs:complexType>

<xs:attribute name="name" use="required" />

<xs:attribute name="subject" use="required" />

<xs:attribute name="testId" use="required" />

<xs:attribute name="bankKey" type="xs:unsignedInt" />

<xs:attribute name="contract" use="required" />

<xs:attribute name="mode" use="required">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="online" />

<xs:enumeration value="paper" />

<xs:enumeration value="scanned" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="grade" use="required" />

<!-- not expected to be used for open source, but may be needed for internal purposes -->

<xs:attribute name="handScoreProject" type="xs:unsignedInt" />

<!-- new fields requested for open source -->

<xs:attribute name="assessmentType" use="required" />

<xs:attribute name="academicYear" use="required" type="xs:unsignedInt" />

<xs:attribute name="assessmentVersion" use="required" />

</xs:complexType>

</xs:element>

<xs:element name="Examinee" minOccurs="1" maxOccurs="1">

<xs:complexType>

<xs:choice minOccurs="0" maxOccurs="unbounded">

<xs:element name="ExamineeAttribute">

<xs:complexType>

<xs:attribute name="context" use="required" type="Context" />

<xs:attribute name="name" use="required" />

<xs:attribute name="value" />

<xs:attribute name="contextDate" use="required" type="xs:dateTime" />

</xs:complexType>

</xs:element>

<xs:element name="ExamineeRelationship">

<xs:complexType>

<xs:attribute name="context" use="required" type="Context" />

<xs:attribute name="name" use="required" />

<xs:attribute name="entityKey" type="xs:unsignedLong" />

<xs:attribute name="value" />

<xs:attribute name="contextDate" use="required" type="xs:dateTime" />

</xs:complexType>

</xs:element>

</xs:choice>

<!-- negative values are used by TDS for testing. -->

<xs:attribute name="key" type="xs:long" />

</xs:complexType>

</xs:element>

<xs:element name="Opportunity" minOccurs="1" maxOccurs="1">

<xs:complexType>

<xs:sequence>

<!-- note: DTD has minOccurs=1, but we could get an invalidation for a joined but

not-started test; no seg will have been initialized in this case -->

<xs:element name="Segment" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:attribute name="id" use="required" />

<xs:attribute name="position" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedByte">

<xs:minInclusive value="1" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="formId" />

<xs:attribute name="formKey" />

<xs:attribute name="algorithm" use="required" />

<!-- new field requested for open source -->

<xs:attribute name="algorithmVersion" use="required" />

</xs:complexType>

</xs:element>

<xs:element name="Accommodation" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:attribute name="type" use="required" />

<xs:attribute name="value" use="required" />

<!-- DTD says implied, but this cannot be null -->

<xs:attribute name="code" use="required" />

<!-- DTD says implied, but this will always be populated; 0 if not segment-oriented -->

<xs:attribute name="segment" use="required">

<xs:simpleType>

<xs:restriction base="xs:unsignedInt">

<xs:minInclusive value="0" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="context" use="required" type="Context" />

<xs:attribute name="contextDate" use="required" type="xs:dateTime" />

</xs:complexType>

</xs:element>

<xs:element name="Score" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:attribute name="measureOf" use="required" />

<xs:attribute name="measureLabel" use="required" />

<xs:attribute name="value" use="required" />

<xs:attribute name="standardError" type="NullableFloat" />

</xs:complexType>

</xs:element>

<xs:element name="GenericVariable" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:attribute name="context" use="required" />

<xs:attribute name="name" use="required" />

<xs:attribute name="value" use="required" />

</xs:complexType>

</xs:element>

<xs:element name="Item" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:sequence>

<xs:element name="Response" minOccurs="0" maxOccurs="1">

<xs:complexType mixed="true">

<xs:attribute name="date" type="xs:dateTime" />

<xs:attribute name="type">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="value" />

<xs:enumeration value="reference" />

<xs:enumeration value="" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

</xs:element>

<xs:element name="ScoreInfo" type="ScoreInfoType" minOccurs="0" maxOccurs="1" />

</xs:sequence>

<xs:attribute name="position" use="required" type="xs:unsignedInt" />

<xs:attribute name="segmentId" use="required" />

<xs:attribute name="bankKey" use="required" type="xs:unsignedInt" />

<xs:attribute name="key" use="required" type="xs:unsignedInt" />

<xs:attribute name="operational" use="required" type="Bit" />

<xs:attribute name="isSelected" use="required" type="Bit" />

<xs:attribute name="format" use="required" />

<xs:attribute name="score" use="required" type="UFloatAllowNegativeOne" />

<!-- may not be set for unselected items, or may be set to NOTSCORED -->

<xs:attribute name="scoreStatus">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="NOTSCORED" />

<xs:enumeration value="SCORED" />

<xs:enumeration value="WAITINGFORMACHINESCORE" />

<xs:enumeration value="SCORINGERROR" />

<!-- future -->

<xs:enumeration value="APPEALED" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="adminDate" use="required" type="xs:dateTime" />

<xs:attribute name="numberVisits" use="required" type="xs:unsignedInt" />

<xs:attribute name="mimeType" use="required">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="text/plain" />

<xs:enumeration value="text/xml" />

<xs:enumeration value="text/html" />

<xs:enumeration value="audio/ogg" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="clientId" />

<xs:attribute name="strand" use="required" />

<xs:attribute name="contentLevel" use="required" />

<xs:attribute name="pageNumber" use="required" type="xs:unsignedInt" />

<xs:attribute name="pageVisits" use="required" type="xs:unsignedInt" />

<!-- this should really be unsignedInt, but there are rare occassions

where it cannot be calculated correctly and we get a negative value. -->

<xs:attribute name="pageTime" use="required" type="xs:int" />

<xs:attribute name="dropped" use="required" type="Bit" />

</xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="server" use="required" />

<xs:attribute name="database" />

<xs:attribute name="clientName" use="required" />

<xs:attribute name="key" use="required" />

<xs:attribute name="oppId" use="required" />

<!-- note: DTD says required, but may get invalidation for joined, not-started test -->

<xs:attribute name="startDate" type="NullableDateTime" />

<xs:attribute name="status" use="required">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="appeal" />

<xs:enumeration value="completed" />

<xs:enumeration value="expired" />

<xs:enumeration value="handscoring" />

<xs:enumeration value="invalidated" />

<xs:enumeration value="paused" />

<xs:enumeration value="reported" />

<xs:enumeration value="reset" />

<xs:enumeration value="scored" />

<xs:enumeration value="submitted" />

<xs:enumeration value="pending" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="opportunity" use="required" type="xs:unsignedInt" />

<xs:attribute name="statusDate" use="required" type="xs:dateTime" />

<xs:attribute name="dateCompleted" type="NullableDateTime" />

<xs:attribute name="pauseCount" use="required" type="xs:unsignedInt" />

<xs:attribute name="itemCount" use="required" type="xs:unsignedInt" />

<xs:attribute name="ftCount" use="required" type="xs:unsignedInt" />

<xs:attribute name="abnormalStarts" use="required" type="xs:unsignedInt" />

<xs:attribute name="gracePeriodRestarts" use="required" type="xs:unsignedInt" />

<xs:attribute name="taId" />

<xs:attribute name="taName" />

<xs:attribute name="sessionId" />

<xs:attribute name="windowId" use="required" />

<xs:attribute name="windowOpportunity" type="NullableUInt" />

<xs:attribute name="dateForceCompleted" type="NullableDateTime" />

<xs:attribute name="qaLevel" />

<!-- new field requested for open source -->

<xs:attribute name="assessmentParticipantSessionPlatformUserAgent" use="required" />

</xs:complexType>

</xs:element>

<xs:element name="Comment" minOccurs="0" maxOccurs="unbounded">

<xs:complexType mixed="true">

<!-- TODO: domain values; I've seen GlobalNotes and TESTITEM, but I'm not sure how rigid this is. -->

<xs:attribute name="context" use="required" />

<xs:attribute name="itemPosition" type="NullableUInt" />

<xs:attribute name="date" use="required" type="xs:dateTime" />

</xs:complexType>

</xs:element>

<xs:element name="ToolUsage" minOccurs="0" maxOccurs="unbounded">

<xs:complexType>

<xs:sequence>

<xs:element name="ToolPage" minOccurs="1" maxOccurs="unbounded">

<xs:complexType>

<xs:attribute name="page" use="required" type="xs:unsignedInt" />

<xs:attribute name="groupId" use="required" />

<xs:attribute name="count" use="required" type="xs:unsignedInt" />

</xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="type" use="required" />

<xs:attribute name="code" use="required" />

</xs:complexType>

</xs:element>

</xs:sequence>

</xs:complexType>

</xs:element>

<!-- recursive node requires global type so that it can be named -->

<xs:complexType name="ScoreInfoType">

<xs:sequence>

<xs:element name="ScoreRationale" minOccurs="0" maxOccurs="1" />

<xs:element name="SubScoreList" minOccurs="0" maxOccurs="1">

<xs:complexType>

<xs:sequence>

<xs:element minOccurs="0" maxOccurs="unbounded" name="ScoreInfo" type="ScoreInfoType" />

</xs:sequence>

</xs:complexType>

</xs:element>

</xs:sequence>

<!-- same constaints as item/@score -->

<xs:attribute name="scorePoint" type="UFloatAllowNegativeOne" />

<!-- top level will always be "overall" (if not null); this represents the item score. Nested ScoreInfo nodes will have dimention level scores

if applicable, so this will be the dimension name. -->

<xs:attribute name="scoreDimension" />

<xs:attribute name="scoreStatus">

<xs:simpleType>

<xs:restriction base="xs:token">

<xs:enumeration value="Scored" />

<xs:enumeration value="NotScored" />

<xs:enumeration value="WaitingForMachineScore" />

<xs:enumeration value="ScoringError" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

<xs:attribute name="conditionCode">

<xs:simpleType>

<xs:restriction base="xs:string">

<xs:pattern value="(|[A-Z])"/>

<xs:maxLength value="1" />

</xs:restriction>

</xs:simpleType>

</xs:attribute>

</xs:complexType>

<!-- some reusable types -->

<xs:simpleType name="Bit">

<xs:restriction base="xs:unsignedByte">

<xs:minInclusive value="0" />

<xs:maxInclusive value="1" />

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="Empty">

<xs:restriction base="xs:string">

<xs:enumeration value="" />

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="NegativeOne">

<xs:restriction base="xs:string">

<xs:enumeration value="-1" />

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="NullableDateTime">

<xs:union memberTypes="xs:dateTime Empty ">

</xs:union>

</xs:simpleType>

<xs:simpleType name="NullableUInt">

<xs:union memberTypes="xs:unsignedInt Empty ">

</xs:union>

</xs:simpleType>

<xs:simpleType name="NullableFloat">

<xs:union memberTypes="xs:float Empty ">

</xs:union>

</xs:simpleType>

<xs:simpleType name="Context">

<xs:restriction base="xs:token">

<xs:enumeration value="INITIAL" />

<xs:enumeration value="FINAL" />

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="UFloat">

<xs:restriction base="xs:float">

<xs:minInclusive value="0" />

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="UFloatAllowNegativeOne">

<xs:union memberTypes="UFloat NegativeOne ">

</xs:union>

</xs:simpleType>

</xs:schema>

# Sample XML Output

Based on the XSD, the following section contains a sample XML output that can aid in the understanding of the implementation.

<TDSReport>

<Test name="(SBAC)SBAC-FT-SomeDescription-MATH-7-Fall-2013-2014" subject="MA" testId="SBAC-FT-SomeDescription-MATH-7" bankKey="200" contract="SBAC" mode="online" grade="3-12" assessmentType="Formative" academicYear="2014" assessmentVersion="SomeNewVersion" />

<Examinee key="922171">

<ExamineeAttribute context="FINAL" name="DOB" value="07242001" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="Ethnicity" value="4" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="FirstName" value="John" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="Gender" value="M" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="Grade" value="07" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="LastName" value="Smith" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="FINAL" name="SSID" value="CA-9999999598" contextDate="2014-04-14T11:13:41.803" />

<ExamineeAttribute context="INITIAL" name="DOB" value="" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="Ethnicity" value="4" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="FirstName" value="John" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="Gender" value="M" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="Grade" value="07" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="LastName" value="Smith" contextDate="2014-04-14T10:48:43.433" />

<ExamineeAttribute context="INITIAL" name="SSID" value="CA-9999999598" contextDate="2014-04-14T10:48:43.433" />

<ExamineeRelationship context="FINAL" name="DistrictID" entityKey="709" value="CA\_9999827" contextDate="2014-04-14T11:13:41.810" />

<ExamineeRelationship context="FINAL" name="DistrictName" entityKey="709" value="This Elementary School District" contextDate="2014-04-14T11:13:41.810" />

<ExamineeRelationship context="FINAL" name="SchoolID" entityKey="9426" value="CA\_9999827\_9999928" contextDate="2014-04-14T11:13:41.810" />

<ExamineeRelationship context="FINAL" name="SchoolName" entityKey="9426" value="My Elementary School" contextDate="2014-04-14T11:13:41.810" />

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&lt;p&gt;2 miles away from the beginning&lt;/p&gt;

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&lt;!ELEMENT EdgeVector (#PCDATA)&gt;

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&lt;!ELEMENT LabelList (#PCDATA)&gt;

&lt;!ELEMENT Object (PointVector,EdgeVector,LabelList,ValueList)&gt;

&lt;!ELEMENT ObjectSet (Object,AtomicObject+)&gt;

&lt;!ELEMENT PointVector (#PCDATA)&gt;

&lt;!ELEMENT Question (QuestionPart)&gt;

&lt;!ATTLIST Question id NMTOKEN #REQUIRED&gt;

&lt;!ELEMENT QuestionPart (LabelList,GridImageTestPoints,ObjectSet)&gt;

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&lt;!ELEMENT ValueList (#PCDATA)&gt;

]&gt;

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&lt;p&gt;&amp;nbsp;&amp;nbsp;&amp;nbsp;&amp;nbsp; For historical reasons, the word &amp;quot;algebra&amp;quot; has several related meanings in mathematics, as a single word or with qualifiers. Such a situation, where a single word has many meanings in the same area of mathematics, may be confusing. However the distinction is easier if one recalls that the name of a scientific area is usually singular and without an article and the name of a specific structure requires an article or the plural.&lt;/p&gt;

&lt;p&gt;&amp;nbsp;&lt;/p&gt;

&lt;p&gt;&amp;nbsp;&amp;nbsp;&amp;nbsp;&amp;nbsp;&lt;/p&gt;

</Response>

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<SubScoreList>

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