Test Results Data Reporting Requirements
For School Year 2015-2016

Smarter Balanced members transmit annual summative test data to Smarter Balanced for validity and quality assurance purposes. This memo summarizes the requirements for summative test results data reported by members to Smarter Balanced for the 2015-2016 school year.

Members may elect to submit these data without student, school, or district identifiers. Members should refer to their MOU with UCLA and/or their data sharing agreement with UCLA regarding which data they plan to share.

Please refer to the [SmarterApp Test Results Data Dictionary and Logical Data Model](#)[1] for detailed definitions for each field, which fields are required, and the logical relationship between fields. This memo highlights the following information from that specification:

- New Requirements for 2015-2016 (changes from the previous year)
- Clarifications and Important Considerations
- List of Required Fields
- Acceptable File Formats
- Transmission to Smarter Balanced

New Requirements for 2015-2016
The following requirements are new in SY 2015-2016:

- **Theta** values are required for the overall score and for claim scores.
- **AdministrationCondition** is a new, required field.
- **Completeness** is a new, required field.
- **ResponseDuration** is a new, required field.
- **DeliveryMode** is now required.
- Certain values for **Status** are now obsolete.

Theta Values
In January 2016, Smarter Balanced members approved a policy change for the Highest Operational Scale Score (HOSS) and Lowest Operational Scale Score (LOSS). Smarter Balanced members can now choose one of three options for application of HOSS and LOSS when calculating scale scores. Please see the separate policy document for details of this change.

When different policies are used in different years then scores may not be comparable. Because of this, Smarter Balanced now requires Theta Scores in addition to Scale Scores. The Theta values are a precursor to scale score before HOSS and LOSS are applied. Including the Theta values allows scale scores to be re-calculated using consistent HOSS and LOSS rules when making comparisons. Newly required fields are **OverallTheta**, **OverallThetaStandardError**, **Claim1Theta**, **Claim1ThetaStandardError**, **Claim2Theta**, **Claim2ThetaStandardError**, **Claim3Theta**, **Claim3ThetaStandardError**, **Claim4Theta**, and **Claim4ThetaStandardError**.

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[1] See http://www.smarterapp.org/specs/TestResults-DataModel.html

AdministrationCondition – Required Field

Values:

        Summative Tests: "Valid", and "Invalid".
        Interim Tests*: "Standardized" and "Nonstandardized".

*Note: Interim Test reporting requirements are only applicable for those using the open source reporting application for reporting interim assessment results.

Completeness – Required Field

Values: "Partial", "Complete"

ResponseDuration – Required Field

The new, required **ResponseDuration** field indicates the amount of time a student spends responding to a particular item. When there are multiple items on a single page, as with a performance task, then the time spent on the whole page may be evenly divided among the items on that page. The division should be done in such a way that taking the sum of the times results in an accurate measure of time spent by the student on the test.

DeliveryMode – Required Field

New Requirement: Field is required

Values: "Online", "Paper"

Obsolete Values: "Scanned" (use "Paper" for all paper-pencil tests regardless of how the responses are collected and scored).

Status – Optional Field

Field is now optional (previously it was required).

Obsolete Values: "Completed", "Expired", "Invalidated"

The obsolete values "Completed" and "Expired" correspond to **Completeness** values of "Complete" and "Partial". The obsolete value "Invalidated" corresponds to the **AdministrationCondition** value "invalid".

Clarifications and Important Considerations

The following features are unchanged from last year but they deserve special clarification or consideration.

- StudentIdentifier and ExternalSSID
- UserAgent
- TestOpportunityId (key that correlates between test info and item info)
- ItemId
- Item Data Fields
- Paper-Pencil Records
- Date and Time Formats

StudentIdentifier and ExternalSSID

Members may elect to provide de-identified student data. When reporting de-identified student data, the **StudentIdentifier** must not contain a state, district, or school-issued student ID. It must be a

value unique to the state and consistent from year to year. Smarter Balanced recommends using a cryptographic keyed hash on the state-issued student ID.[2]

The encrypted (sometimes called "alternate") student ID should be supplied in the **StudentIdentifier** field in place of the state-issued student ID. This was the practice for most members in 2014-2015 but was not clear in the previous specifications. Smarter Balanced has updated the Test Results Data Dictionary specification to improve clarity.

The **ExternalSSID** field (sometimes called **AlternateSSID**) is **not** required and is only for the convenience of the member and service provider. Again, this was the practice for most members in 2014-2015 but it wasn't clear in the specifications.

UserAgent

The existing **UserAgent** field was required previously and continues to be a required field (except for paper-pencil tests). It should be filled in with the "User-Agent" header string from the web browser that the student used to access the assessment. This field must be included with the balance of the test results data, not transmitted separately.

TestOpportuntyId

The **TestOpportunityId** field uniquely identifies an instance of a particular student taking a particular test. If a student is allowed to re-take a test then each instance must have a different **TestOpportunityId** (though only one should be reported to Smarter Balanced).

When test results are reported in tabular format, such as CSV, then there are usually two tables – one for test results and one for item level results. The **TestOpportunityId** field is the key that is used to link data between the tables.

ItemId

The **ItemID** field must use the same Smarter Balanced assigned item ids that are included in the test packages.

Item Data Fields

Item level data fields such as **ItemId**, **ResponseValue**, and **ItemScore** must be reported in the same file and in the same way regardless of whether the items are machine scored or hand scored.

Paper-Pencil Test Records

Records for tests administered with paper and pencil have the same reporting requirements as online tests – specifically, all records are required and they should be reported using the same file formats as tests administered online.

Date and Time Formats

All Dates and times should be reported using the W3C recommended formats.[3] It is a profile of the ISO 8601 standard. Here are examples:

- Date: 2016-02-04
- Time: 16:21:05
- Date and time: 2016-02-04T16:21:05

Delimiters (dashes, colons, and the letter "T") are required.

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[2] See http://www.smarterapp.org/deployment/HashStudentIdSample.html
[3] See http://www.w3.org/TR/NOTE-datetime

Required Fields

The following is a complete list of required fields in reported test results for the 2015-2016 school year. Please refer to the [SmarterApp Test Results Data Dictionary and Logical Data Model](#)[4], for detailed definitions for each field.

Test Level Data

AssessmentId
AssessmentName
Subject
DeliveryMode
TestGrade
AssessmentType
SchoolYear
StudentIdentifier
GradeLevelWhenAssessed
Sex
HispanicOrLatinoEthnicity
AmericanIndianOrAlaskaNative
Asian
BlackOrAfricanAmerican
White
NativeHawaiianOrOtherPacificIslander
TwoOrMoreRaces
IDEAIndicator
LEPStatus
Section504Status
EconomicDisadvantageStatus
StateAbbreviation
TestOpportunityId
AssessmentAdministrationStartDate
StartDateTime
SubmitDateTime
AdministrationCondition
Completeness
Accessibility Codes
NumberOfResponses
TestWindowId
UserAgent
ScaleScore
ScaleScoreStandardError
ScaleScoreAchievementLevel
OverallTheta

OverallThetaStandardError
Claim1Score
Claim1ScoreStandardError
Claim1ScoreAchievementLevel
Claim1Theta
Claim1ThetaStandardError
Claim2Score
Claim2ScoreStandardError
Claim2ScoreAchievementLevel
Claim2Theta
Claim2ThetaStandardError
Claim3Score
Claim3ScoreStandardError
Claim3ScoreAchievementLevel
Claim3Theta
Claim3ThetaStandardError
Claim4Score
Claim4ScoreStandardError
Claim4ScoreAchievementLevel
Claim4Theta
Claim4ThetaStandardError

Item Level Data

TestOpportunityId
ItemId
ItemPosition
AdminDateTime
ResponseDuration
ResponseValue
ItemScore
ScoreDimension
Rater1Score
Rater1UserId
Rater2Score
Rater2UserId
Rater3Score
Rater3UserId

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[4] http://www.smarterapp.org/specs/TestResults-DataModel.html

Acceptable File Formats

Preferred data submission formats are Comma Separated Value (CSV) and the Smarter Balanced Test Results Transmission Format (TRT).

CSV Format

Test Results submitted in CSV format must follow the [RFC 4180 standard](5). Please pay particular attention to guidelines regarding quotation marks, commas and embedded line breaks. The "ResponseValue" field, in particular, is likely to contain all of these characters. The first line of each CSV formatted file should contain the field names listed in the Required Fields section.

Test results in CSV format should be divided into two files, one for Test Level Data and one for Item Level Data. All data should be included in these two files. *If different data fields come from different sources they must be merged by the member or service provider before transmission to Smarter Balanced.*

In order to keep files to reasonable sizes, members may divide the results into multiple files. For example, a separate file might be used for each subject and grade.

CSV files may be compressed into a .zip file to reduce storage and transmission demands.

TRT Format

The TRT format is documented here:
http://www.smarterapp.org/specs/TestResultsTransmissionFormat.html.

In the [Smarter Balanced Test Results Transmission Format](6), each test result requires a separate XML file. Many test results should be combined into a .zip file before transmission. This reduces the size of the file and makes transmission much more convenient.

Other Formats

Members or service providers considering other formats should contact Smarter Balanced as soon as possible. Any alternative format must be approved by Smarter Balanced and meet the following criteria:

- All required fields must be included.
- Data for the same test may be divided into at most two files – one for test level data and one for item level data.

Regardless of format, Smarter Balanced encourages members and service providers to send samples of simulated data to ensure that all required data is present and that the format is acceptable.

Transmitting the Data to Smarter Balanced

Members and/or their service provides will use the same method for data submission as was used for SY 2014-2015. For most members this is an upload to a dedicated partition on the Smarter Balanced secure FTP site.

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[5] http://www.rfc-editor.org/rfc/rfc4180.txt
[6] http://www.smarterapp.org/specs/TestResultsTransmissionFormat.html

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