Base Standard

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**Prepared by the AICPA Assurance Services Executive Committee
Emerging Assurance Technologies Task Force**

Assurance Services Executive Committee (2012–2013)

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Audit Data Standards

The benefits of standardization are well-recognized and have led to the development of various general IT standards. One reason data standards are needed is to address the ongoing challenge that management and internal and external auditors face in the efficient exchange of a company's[1] data. This process is complicated by the fact that accounting and IT personnel approach requests for such information from different perspectives. For example, in some cases, audit-related data requests are forwarded directly to a company's IT department, with limited further involvement from the accounting or finance department. In many cases, the burden is on the auditors to acquire the data.

The AICPA Assurance Services Executive Committee believes that audit data standards (ADSs) will contribute to the efficiency and effectiveness of the audit process through standardization of the format for fields and files commonly requested for audit and other related purposes. Similarly, other consumers of the standardized information (such as creditors) also would benefit if a company chose to share that data with them. Companies large and small, public and private, also stand to benefit from the application of the ADSs. By standardizing the data requested by auditors on a regular basis, companies will be able to automate and replicate the information request process, thereby reducing the amount of time and effort required to provide the requested data. Company staff and internal audit will also benefit from enhanced analytical capabilities by leveraging the standardized data for internal purposes. The standard also will make the data usable for external auditors to perform enhanced data analysis.

These standards represent leading practices that well-designed accounting and financial reporting systems are capable of adhering to. This first publication of the *Audit Data Standards* addresses the general ledger and accounts receivable, with the intention of adding ADSs for other subledgers over time, such as inventory, accounts payable, fixed assets, and payroll, among others.

ADSs address both the technical design (files, tables, fields, formats, and so on) and supplemental questions about the data that are essential for an understanding of its use. The former generally is best addressed though IT systems design and the latter is commonly provided by accounting or finance personnel, with input from IT personnel. Please note that these are voluntary, recommended data standards for the extraction of information. These data extract standards are not required, nor do they represent authoritative audit or accounting standards.

Recognizing the value of uniformity and the benefits of individual adaptation, particularly for companies of varying sizes and industry characteristics, these standards provide some degree of flexibility. This is a minimum standard and is not meant to be limiting, so users may create customized, user-defined fields (for example, items should not be subtracted, but they may be added where they do not already exist in the standard). However, to achieve the benefits of standardization (when not specifically indicated), individual customization should be avoided (in other words if an item is defined in the standard, do not redefine it). Once a company adopts a particular convention, it should consistently export its data according to that convention, unless a major IT system conversion is undertaken or the producers and consumers of the standardized data mutually agree on an expansion, or both.

Companies implementing the ADSs should first contact their enterprise resource planning (ERP) or accounting package vendor for assistance. If the vendor does not have a solution for adopting the ADSs, extract, transform, load (or ETL) vendors have developed scripts that can be used to map to the ADSs.

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[1] Please note that the term *company* is meant to represent companies, partnerships, government agencies, not-for-profit entities, and so on, and is not limited to commercial entities.

Prior to implementing this data standard, an evaluation should be made of the reliability of the data through the use of controls and segregation of duties testing. Guidance for these types of evaluation criteria is available at aicpa.org.

It is important to note that each ADS (*Accounts Receivable* and *General Ledger*) should be used in conjunction with this *Base Standard* document.

1. Base Standards

The base standards include the following:

- Formats for files and fields
- User listing
- Business unit listing
- Segment listing

1.1 Formats for Files and Fields

File Naming: The ADS provides file names that describe the required data files, but these names are only suggested names. Organizations may employ mutually agreed file names to add additional information about the files such as the following:
- File creation date
- File version number
- Organizational unit for which the data applies.

File Format: Files should be provided in either of two formats: flat file format or extensible business reporting language global ledger taxonomy framework (XBRL GL). If desired, files may be compressed using the ZIP file format or other mutually agreed-to compression software.

(1) Flat file format

Flat file format should be a pipe-delimited[2] UTF-8 text file format. This is a simple, nonproprietary file format that is widely supported by many software programs. Benefits of the flat file format include file size and widespread use, whereas limitations include international applicability and ability to represent relational or dimensional concepts. Each file should include a header record that lists the ADS field names for each data field. Field information should conform to the following specifications.

DataType	Standard
TEXT	Left justified; no leading or trailing blank spaces.
NUMERIC	Currency symbols and thousands separators (for example, commas) should not be used. Decimal symbols must be included and must be a period ("."). Decimals must be included for nonwhole numbers. Negative numbers should be indicated with a minus sign (–) preceding the number.
DATE	ISO 8601—Date as CCYYMMDD.
TIME	ISO 8601 representing time in 24-hour time (hhmm) (for example, 1:00 PM = 1300).

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[2] In situations in which Chinese or Japanese character sets (or both) are being extracted, the tab-delimited format is recommended as an alternative to the pipe-delimited format.

(2) XBRL GL

XBRL GL is a semantic agreement on the use of XBRL for detailed ERP data, a format based on the World Wide Web Consortium's XML Recommendation. Potential advantages of the XBRL GL approach include built-in validation capabilities, greater support in and for international markets, and the ability to provide more powerful data representations. Potential disadvantages include increased uncompressed data file sizes due to the inclusion of additional XBRL tag data, and lack of XBRL GL adoption by some GL vendors.

The XBRL GL taxonomy, made up of XML schema and related files, is used to guide the creation of and validate (check the conformance of) the data files, and can be found at the XBRL website. Examples of XBRL GL files are included in the standard download and illustrate the necessary structure that accompanies the fields subsequently described.

To associate the XBRL GL Files with the profile represented by the ADS, a namespace is declared in the form "xmlns:ads=http://www.aicpa.org/ads/YYYY-MM-DD" in which YYYY-MM-DD represents the publication data associated with the ADS publication. It is then used to identify explicitly the different tables defined in this document, such as "ads:User_Listing."

Data Fields: The audit standard data includes multiple tables of information. Each table has rows describing the data fields, and each data field description includes a "Level" column that has a label of either 1 or 2 to indicate the importance of the data. Level 1 items are required (when available through IT systems or additional means). The level 2 items are recommended, but may not always be available. The client should specify those fields that are not available.

1.2 User_Listing

This table holds an identifier and information about each user within the system. Each user should have a full name, title, and role, if available, within the system.

Field #	Field Name	Level	Flat File Data		XBRL GL Taxonomy Element[3]	Description
			DataType	Length[4]		
1	User_ID	1	TEXT	25	gl-cor:identifierCode with gl-cor:identifierCategory = "systemUser"	The ID used to identify a person within the ERP system. Must match to the User_ID, Last_Modified_By, and Approved_By fields in the GL_Detail.
2	User_Active_Status	2	TEXT	10	gl-cor:identifierActive	The status of users (for identification of transactions by inactive users). The value of this field should be either "Active" or "Inactive" for flat file data; for XBRL GL, this is a Boolean, in which active is "true" and inactive is "false."
3	User_Active_Modified_Date	2	DATE		gl-cor:dateAcknowledged	The date of user activation or termination.
4	First_Name	1	TEXT	100	gl-cor: identifierContactFirstName	The first (given) name of the person.
5	Last_Name	1	TEXT	100	gl-cor:identifierContactLastName	The last (family) name of the person.
6	Title	2	TEXT	100	gl-cor:identifierContactPrefix	The title of the person (for example, accounting manager).
7	Department	2	TEXT	100	gl-cor:identifierContactAttentionLi	The department the person is part of (for example, accounting).

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[3] Taken from entry point of XML schema file gl-plt-2006-10-25.xsd found in the subdirectory \plt\case-c-b-m-u-t of the XBRL GL file structure; this should be used for the schemaLocation and schemaRef, although alternatives may be used if required. User should use the most current recommended version available, unless agreement on a later draft is made and beneficial.

[4] Throughout the document, this column represents a suggested maximum length.

Field #	Field Name	Level	Flat File Data		XBRL GL Taxonomy Element[3]	Description
			DataType	Length[4]		
					ne	
8	**Role_Responsibility**	2	TEXT	100	gl-cor: identifierContactPositionRole	The person's functional role or primary responsibility (for example, accounts payable).

Additional Comment for XBRL GL:

For a user listing, additional required or recommended fields include the following.

Element	Content	Comment
gl-cor:entriesType	value = "other"	[entriesType] is a mandatory field; [other] is an enumerated value.
gl-cor:entriesComment	value = "ads:User_Listing"	[entriesComment] is the descriptive field describing what is common in the collection of information; introducing audit data standard namespace and qualifier for type of collection ties it to this representation.

1.3 Business_Unit_Listing

The business unit listing provides additional information about the business units present within the GL_Detail file. This table includes a description and definition of any business unit hierarchy.

Field #	Field Name	Level	Flat File Data		XBRL GL Taxonomy Element	Description
			DataType	Length		
1	**Business_Unit_Code**	1	TEXT	25	XBRL GL tracks hierarchy ID, hierarchy description, and hierarchy type, so it can track code "NA," description "N. America," and type "global area" using gl-cor:accountSubID, gl-cor:accountSubDescription, and gl-cor:accountSubType, respectively. Interrelations and hierarchies are captured by gl-cor:parentSubAccountType (what is the hierarchy type this unit rolls up to).	Used to identify the business unit, region, branch, and so on at the level that financial statements are being audited and for which the trial balance is generated. For example, you may use a code aligned with the concept of a reportable segment as defined in Financial Accounting Standards Board *Accounting Standards Codification* 280, *Segment Reporting*.
2	**Business_Unit_Description**	1	TEXT	100	See above; an unlimited number of units and structures are permitted.	Business unit (plain English) description to indicate the name or other identifying characteristics of the business unit.
3	**Business_Unit_Hierarchy1**	2	TEXT	100	Rather than duplicate fixed relationships between higher level hierarchies, they are captured once per Business_Unit.	If a hierarchy exists in the business unit structure, use the field to capture the highest level of the hierarchy (for example, global area with values such as North America, South America, Europe, the Middle East, Africa, the Far East, and so on).

Field #	Field Name	Level	Flat File Data		XBRL GL Taxonomy Element	Description
			DataType	Length		
4	**Business_Unit_Hierarchy2**	2	TEXT	100	See above; an unlimited number of units and structures are permitted.	If a hierarchy exists in the business unit structure, use the field to capture the next lower level of the hierarchy (for example, regions with values such as East Coast, West Coast, Central-Western Europe, and so on).
5	**Business_Unit_Hierarchy3**	2	TEXT	100	See above; an unlimited number of units and structures are permitted.	If a hierarchy exists in the business unit structure, use the field to capture the next lower level of the hierarchy (for example, cities with values such as Los Angeles, Boston, Frankfurt, and so on).
6	**Business_Unit_Hierarchy4**	2	TEXT	100	See above; an unlimited number of units and structures are permitted.	If a hierarchy exists in the business unit structure, use the field to capture the next lower level of the hierarchy.
7	**Business_Unit_Hierarchy5**	2	TEXT	100	See above; an unlimited number of units and structures are permitted.	If a hierarchy exists in the business unit structure, use the field to capture the next lower level of the hierarchy.

Additional Comment for XBRL GL:

The preceding design assumes a single hierarchy in which Business_Unit_Hierarchy_(n+1) is a further breakdown of Business_Unit_Hierarchy_(n). XBRL GL can track an unlimited number of breakdowns and hierarchies, with proportionate allocation of subunits to units.

For a business unit listing, additional required or recommended fields include the following.

Element	Content	Comment
gl-cor:entriesType	value = "other"	[entriesType] is a mandatory field; [other] is an enumerated value.
gl-cor:entriesComment	value = "ads:Business_Unit_Listing"	[entriesComment] is the descriptive field describing what is common in the collection of information; introducing audit data standard namespace and qualifier for type of collection ties it to this representation.

1.4 Segment0X_Listing (X=1 to 5)

It is often useful to analyze financial data by different dimensions (for example, profit center, division, branch, product, geographic region). This standard includes up to five such dimensions, referred to as segments. The (up to) five segment listing tables map the values of each of the five segments to a text description of that value. The purpose of (optional) segments 1−5 is captured in the *Base Standards* questionnaire, question 10.

XBRL GL provides more explicit context for the segments, and therefore does not require an implicit representation and an order to be associated with each segment grouping. Should it be deemed important to maintain the presentation order of the segments, the following fields can be used. All of the value/description pairs can be included in a single XBRL GL instance.

For each segment used, complete the following table.

Field #	Field Name	Level	Flat File Data		XBRL GL Taxonomy Element	Description
			DataType	Length		
1	**Segment0X_Value**	2	TEXT	25	gl-cor:rsubID; the explicit definition of the broad purpose for the segment or the numeric value (1..5) can be put in gl-cor:accountSubType	Value of Segment0X (X may equal 1 to 5).
2	**Segment0X_Description**	2	TEXT	100	gl-cor:accountSubDescription	Segment description to indicate the name or other identifying characteristics of Segment0X_Value (X may equal 1 to 5).

Additional Comment for XBRL GL:

For a segment listing, additional required or recommended fields include the following.

Element	Content	Comment
gl-cor:entriesType	value = "other"	[entriesType] is a mandatory field; [other] is an enumerated value.
gl-cor:entryComment	value = "ads:Segment0X_Listing" if provided as individual files, or "ads:Segment_Listing" if combined as one	[entriesComment] is the descriptive field describing what is common in the collection of information; introducing audit data standard namespace and qualifier for type of collection ties it to this representation.

1.5 Base Standards Questionnaire

The following information is integral to the understanding and use of the relevant data. A company's financial management, in consultation with its IT personnel, should address each of the items each time the data is provided, if applicable. These questions are not intended to be all-inclusive and are presented as examples only. Prior to implementing this data standard, an evaluation should be made of the reliability of the system data through the use of controls and segregation of duties testing, which are not covered by this questionnaire.

Exceptions to Audit Data Standards

1. Are there any exceptions to the audit data standards? For example

   - file formats (for example, not pipe-delimited, no header row, and so on)?
   - field formats (for example, no decimal point in numeric fields, alternative format for dates or times, and so on)?
   - records that are identified as nonfinancial (for example, statistical or budget items)?
   - records that should have been included but were not available for this extract?
   - fields (level 1) that should have been included, but were not available?

2. What fields have been calculated rather than supplied by the system?

Company Information

3. What are the names, titles, and user IDs associated with the financial management team (CFO, controller, and so on)?

4. Has the company had any significant acquisition, divestiture, or system migration activity that may affect the data?

User and Business Unit Administration

5. What are the policies and procedures around the use and reuse of user IDs?

6. What are the policies and procedures around the use and reuse of business unit IDs when business units are acquired or disposed of?

7. What is the process for identifying business units and related hierarchies and at what level are they being measured (for example, geography, product line)?

8. What is the process for identifying segments and related hierarchies and at what level are they being measured (for example, account, profit center, division, business unit, fund, program, branch, project)?

9. Does the company's close calendar specify that employees post entries over the weekend? If so, which weekends?

10. What segments have been used and what do they represent?

11. What is the closing schedule? How many days (calendar) are taken to close each quarter or period? What is the end date of each accounting period?

12. What are the observed company holidays?