Volume 1
Getting Started

Federal **Student** Aid
An OFFICE of the U.S. DEPARTMENT of EDUCATION

Table of Contents

Section 1:

Document Standards

The Common Origination and Disbursement System (COD) Technical Reference includes information for schools using the COD System. School Participants use the XML Common Record to submit Pell Grant, TEACH Grant, and/or Direct Loan data to COD.

The *2023-2024 COD Technical Reference* contains message classes, edits, record layouts, implementation guides, and supporting information for COD Users.

How to Use This Technical Reference

The *2023-2024 COD Technical Reference* is an operational guide that informs schools, vendors, and third-party servicers how to transmit Pell Grant, TEACH Grant, and Direct Loan Origination and Disbursement data to the COD System.

In particular, this Technical Reference provides the record layout and data elements that are required for the COD System to successfully process submitted records as well as the record layout and data elements for responses that are returned to participants by the COD System.

The information provided in this Technical Reference is not intended to reflect all Federal regulations that govern the Pell Grant, TEACH Grant, and Direct Loan programs and with which all participants must comply. As such, schools, vendors, and third-party servicers must refer to these regulations and documents such as the *Federal Student Aid Handbook*, Electronic Announcements, and Dear Colleague Letters for guidance on regulatory compliance.

Document Structure

The 2023-2024 COD Technical Reference is an operational guide that informs schools, vendors, and third-party servicers how to transmit Pell Grant, TEACH Grant, and Direct Loan Origination and Disbursement data to the COD System.

Document Conventions

The COD Technical Reference update for the 2023-2024 Award Year features many new and exciting changes. The following design conventions have been applied to help distinguish between the information presented within this document.

NOTES & UPDATES

Notes and updates are now placed in the margins, as well as important changes to system functionality.

CODE SAMPLES

All code samples, field names, and field values are now distinguished from regular text by their font face, Courier New. Extended snippets of code are presented in the following manner:

```
<DLLoanInformation AwardKey="1">
<OriginationFeePercent>1.068</OriginationFeePercent>
<InterestRebatePercent>0</InterestRebatePercent>
<DisclosureStatementPrintCode>Y</DisclosureStatementPrintCode>
<StudentLevelCode>1</StudentLevelCode>
<FinancialAwardBeginDate>2016-09-01</FinancialAwardBeginDate>
<FinancialAwardEndDate>2017-05-15</FinancialAwardEndDate>
<AcademicYearBeginDate>2016-09-01</AcademicYearBeginDate>
<AcademicYearEndDate>2017-05-15</AcademicYearEndDate>
</DLLoanInformation>
```

CALCULATIONS

Calculations have been highlighted and are presented in the following manner:

Eligibility Used Calculation:

EU % = 100% × (Sum of Actual Disbursements of Award - DMCS Repayments of Award) ÷ Scheduled Award Amount

Viewing & Printing the Document

Updates to this document can be found posted on the following website:

- Knowledge Center: 2023–2024 COD Technical Reference | Knowledge Center
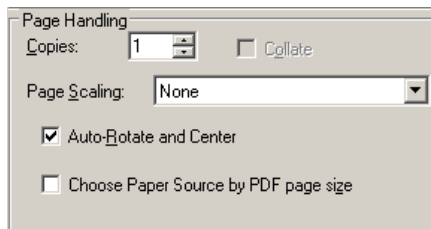
Figure 1: A visual of "Auto-Rotate and Center" selection when printing this document.

A number of documents in this Technical Reference will contain sections that are oriented differently, utilizing both landscape and portrait orientations to maximize usability. Some printers may not be automatically configured to print both orientations.

The user may have to configure the printer to auto-rotate the pages. This option can be set immediately before sending the document to the printer by selecting the "Auto-Rotate and Center" option:

PRINTING DOUBLE-SIDED

This document is best printed in black and white on a printer that is capable of printing double-sided. Double-sided printing will ensure the mirror-margins appear correctly.

Alternatively, if your printer is unable to print double-sided, you can make sure your document is printed properly by following these suggested steps:

1. Print all even pages of the document
2. Load the even pages into the printer.
3. Print all odd pages of the document.

Please note that printing odd pages first, then even pages, may result in the entire document being collated backwards.

Helpful Tip:

It is helpful to determine the paper orientation required to print on both sides properly so that the odd pages are not on the same side as the even pages or upside-down.

FSA Partner and School Relations

If you have any questions regarding the information contained in this document, please contact the FSA Partner and School Relations Center at the following phone number:

FSA Partner and School Relations Center: 1-800-848-0978

The FSA Partner and School Relations Center can also be contacted via live chat at https://cod.ed.gov/cod/LoginShortcutPage, upon login.

Staff is available Monday through Friday, 8 a.m. – 8 p.m. Eastern Time. Or, please email COD Customer Service at CODSupport@ed.gov.

Section 2:

Overview of Changes from 2022–2023 to 2023–2024

This section provides an overview of the changes made for 2023-2024 for Common Origination and Disbursement (COD).

Common Origination and Disbursement (COD) Changes

CHANGES FROM 2022-2023 TO 2023-2024

The change descriptions are organized by the following three categories: Additions, Modifications, and Removals. The first column provides a description of each change. The remaining columns indicate which programs the change will affect.

Additions to Common Origination and Disbursement

Description	Pell Grant Program	Direct Loan Program	TEACH Grant Program	Iraq and Afghanistan Service Grant Program
Student Eligibility Code - 15	X	X	X	—
Warning Edit 229	X	X	X	—

Figure 2: Additions to COD
An em dash or "—" indicates no data.

Modifications to Common Origination and Disbursement

Description	Pell Grant Program	Direct Loan Program	TEACH Grant Program	Iraq and Afghanistan Service Grant Program
Student Eligibility Code – 12, 14	X	X	X	—
AttendanceCost	X	—	—	X
AbilityToBenefitStateCode	X	X	X	—
AbilityToBenefitTestCode	X	X	X	—
Reject Edit 195	X	X	X	—
Reject Edit 196	X	X	X	—
Reject Edit 197	X	X	X	—
Reject Edit 198	X	X	X	—
Reject Edit 199	X	X	X	—
Reject Edit 996	X	X	—	X

Figure 3: Modifications to COD
An em dash or "—" indicates no data.

Removals Common Origination and Disbursement

Description	Pell Grant Program	Direct Loan Program	TEACH Grant Program	Iraq and Afghanistan Service Grant Program
Student Eligibility Code – 11, 13	X	X	X	—

Figure 4: Removals from COD
An em dash or "—" indicates no data.

Additions to COD for 2023-2024

STUDENT ELIGIBILITY CODE

A new Student Eligibility Code "15 – Comprehensive Transition and Postsecondary (CTP) program" will be added to accommodate the Students in Comprehensive Transition and Postsecondary (CTP) programs, Reinstatements of the "State Approved Process", and Correct and Delete current Student Eligibility Codes to accommodate changes to the law.

EDIT 229

The new Edit 229 will be created to notify a school that a customer has undergone Pell LEU Restoration for Discharge. Warning Edit 229 will be triggered for all active award years 2023-2024 and forward. The trigger logic for Edit 229 will be when a customer:

- Has a Pell LEU Restoration for Discharge Adjustment > 0
- Has a Pell award for an active award year OR a Pell award is being submitted for the customer
- Does not have an existing Direct Loan with a Grade Level of 6 or 7
- A Direct Loan with a Grade Level of 6 or 7 is not being submitted for the customer

Modifications to COD for 2023-2024

STUDENT ELIGIBILITY CODE

The existing Student Eligibility Codes "12 – ATB – Test Completed - 1st Enrolled 7/1/15 or After" and "14 – ATB – College Credits – 1st Enrolled 7/1/15 or After" will be updated to "12 – ATB – Test Completed - 1st Enrolled 7/1/12 or After" and "14 – ATB – College Credits – 1st Enrolled 7/1/12 or After" for award year 2023-2024 and forward.

Additionally, the existing Student Eligibility Code "03 – State Process" will be reinstated for award year 2023-2024 and forward.

ATTENDANCE COST

The existing Attendance Cost (`<AttendanceCost>`) tag for Pell/IASG will be updated to a field length of 9 inclusive of 2 decimals (i.e. 999,999.99) for award year 2023-2024 and forward.

ABILITY TO BENEFIT STATE CODE

The existing Ability to Benefit State Code (`<AbilityToBenefitStateCode>`) tag for Direct Loan, Pell, and TEACH programs will be reinstated for award year 2023-2024 and forward.

ABILITY TO BENEFIT TEST CODE

The existing Ability to Benefit Test Code (`<AbilityToBenefitTestCode>`) tag for Direct Loan, Pell, and TEACH programs will be updated to include a new value of "13 – Texas Success Initiative (TSI) Assessment" with a valid start date [June 26, 2020 to Present] for award year 2023-2024 and forward.

EDIT 195

The existing Edit 195 will be modified for the reinstated Student Eligibility Code of "03 - State Process" and Ability to Benefit State Code for award year 2023-2024 and forward.

- If the Student Eligibility Code is 03, the record must contain a valid Ability to Benefit State Code and Ability To Benefit Completion Date.

EDIT 196

The existing Edit 196 will be modified to remove the retired Student Eligibility Code of "11 – ATB – Test Completed – 1st Enrolled 7/1/12 to 6/30/15" for award year 2023-2024 and forward. The trigger logic for Edit 196 will be when:

- If the Student Eligibility Code is 01 and 12, the record must contain a valid Ability to Benefit Completion Date for the submitted Ability To Benefit Test Code or the Ability to Benefit Completion Date is greater than current COD processing date.

EDIT 197

The existing Edit 197 will be modified to remove the retired Student Eligibility Code of "11 – ATB – Test Completed – 1st Enrolled 7/1/12 to 6/30/15" for award year 2023-2024 and forward. The trigger logic for Edit 197 will be when:

- If the Student Eligibility Code is 01 and 12, the record must contain valid values in the following tags, unless already stored on the COD System:
- <AbilityToBenefitTestAdministratorCode>
- <AbilityToBenefitTestCode>
- <AbilityToBenefitCompletionDate >

EDIT198

The existing Edit 198 will be modified to add the new Student Eligibility Code "15 – Comprehensive Transition and Postsecondary (CTP) program" and remove the retired Student Eligibility Code of "11 – ATB – Test Completed – 1st Enrolled 7/1/12 to 6/30/15" and "13 – ATB – College Credits – 1st Enrolled 7/1/12 to 6/30/15" for award year 2023-2024 and forward. The trigger logic for Edit 198 will be when:

- If the Student Eligibility Code is 02, 04, 06, 07, 09, 10, 14 or 15 the record must not contain any of the following tags:
- <AbilityToBenefitTestAdministratorCode>
- <AbilityToBenefitTestCode>
- <AbilityToBenefitCompletionDate>

    AND/OR

- If any Student Eligibility Code, for any award year, contains
- <AbilityToBenefitStateCode>

    OR

- If the Student Eligibility Code is submitted for an award year where the code is not valid.

EDIT 199

The existing Edit 199 will be modified for award year 2023-2024 and forward to match the "HS Diploma or Equivalent field" of "Other" on corresponding CPS Transaction is the only value to match the new Student Eligibility Code of "15 – Comprehensive Transition and Postsecondary (CTP) program".

EDIT 996

The existing Edit 996 will be modified for award year 2023-2024 and forward to reject for:

- Invalid value for <FinancialAwardAmount> on a Direct Loan PLUS Award Amount (Origination/Maintenance) exceeding a length of 6 [999,999].

- Invalid value for <AttendanceCost> on a Pell and IASG Award Amount (Origination/Maintenance) exceeding a length of 9 inclusive of 2 decimals [999,999.99].

DIRECT LOAN ORIGINATION TOOL (DLOT)

The Direct Loan Origination Tool (DLOT) will be updated to include the Student Eligibility Code Changes.

REPORTING CHANGES 2023 - 2024

The existing reports will be updated to accommodate the following:

Note: All reporting changes below will be applicable to all award years.

PELL YEAR-TO-DATE (YTD) RECORD

- The Cost of Attendance field will be updated by increasing the field length to 9 inclusive of 2 decimals [999,999.99].
- The new value of Student Eligibility Code "15" will be added to the Student Eligibility Code field.
- The retired values of Student Eligibility Code "11" and "13" will be removed from the Student Eligibility Code field.
- The updated values of Student Eligibility Code "12" and "14" will be updated on the Student Eligibility Code field.
- The new value of Ability to Benefit Test Code "13" will be added to the Ability to Benefit Test Code field.

DIRECT LOAN REBUILD FILE

- The Financial Award Amount field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Disbursement Amount and Disbursement Net Amount fields will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The COD's Total Net Booked Loan Amount for the First Disbursement will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The new value of Student Eligibility Code "15" will be added to the Student Eligibility Code field.
- The Ability to Benefit State Code field will be populated for when the Student Eligibility Code "03".
- The retired values of Student Eligibility Code "11" and "13" will be removed from the Student Eligibility Code field.
- The updated values of Student Eligibility Code "12" and "14" will be updated on the Student Eligibility Code field.
- The new value of Ability to Benefit Test Code "13" will be added to the Ability to Benefit Test Code field.

TEACH REBUILD FILE

- The new value of Student Eligibility Code "15" will be added to the Student Eligibility Code field.
- The Ability to Benefit State Code field will be populated for when the Student Eligibility Code "03".
- The retired values of Student Eligibility Code "11" and "13" will be removed from the Student Eligibility Code field.
- The updated values of Student Eligibility Code "12" and "14" will be updated on the Student Eligibility Code field.
- The new value of Ability to Benefit Test Code "13" will be added to the Ability to Benefit Test Code field.

DIRECT LOAN SCHOOL ACCOUNT STATEMENT (SAS)

The Direct Loan School Account Statement (SAS) will be updated on both Fixed Length and Comma Delimited formats to account for the following changes.

DIRECT LOAN SAS LOAN DETAIL, LOAN LEVEL SECTION

- The Actual Gross Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Actual Net Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].

DIRECT LOAN SAS LOAN DETAIL, DISBURSEMENT LEVEL SECTION

- The Disbursement Actual Gross Amount –COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Disbursement Actual Net Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Disbursement Actual Net Adjustment – COD field will be updated by increasing the field length to 7 with no decimal displayed [-999999 to 0999999].
- The Total Gross Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Total Net Amount - COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].

DIRECT LOAN SCHOOL ACCOUNT STATEMENT (SAS) DISBURSEMENT DETAIL ON DEMAND

- The Disbursement Actual Gross Amount –COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Disbursement Actual Net Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Disbursement Actual Net Adjustment – COD field will be updated by increasing the field length to 7 with no decimal displayed [-999999 to 0999999].
- The Total Gross Amount – COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].
- The Total Net Amount - COD field will be updated by increasing the field length to 6 with no decimal displayed [0-999999].

CAMPUS-BASED RECORD LAYOUT

A newly introduced Volume 4 has been created for the Technical Reference to provide Schools, Servicers, EdExpress, and FSA Users information on the Campus-Based Schema. This Volume will contain all existing Volumes of the COD Technical Reference contextualized for Campus-Based Schema only. This includes:

- Implementation Guide
- Campus-Based Record Layout
- Document Standards (Message Classes)
- Edits
- Campus-Based Schema School Testing Guide

Removals from COD for 2023-2024

STUDENT ELIGIBILITY CODE

The existing Student Eligibility Codes "11 – ATB – Test Completed – 1st Enrolled 7/1/12 to 6/30/15" and "13 – ATB – College Credits – 1st Enrolled 7/1/12 to 6/30/15" will be retired for award year 2023-2024 and forward.

Section 3:

COD Overview

Common Origination and Disbursement

The Common Origination and Disbursement (COD) System was implemented in April 2002 by the Office of Federal Student Aid (FSA) to re-engineer the process of delivering and reporting Federal Pell Grants and Direct Loans from two processes into one Common Origination and Disbursement Process. This section will provide an overview of the COD System, contact information for COD Customer Service, and high-level information regarding the common record files and how they are processed through COD.

On July 1, 2006, the COD System implemented the Higher Education Reconciliation Act of 2005 (the HERA). HERA introduced the Academic Competitiveness Grant (ACG), the National Science and Mathematics Access to Retain Talent (SMART) Grant, and the PLUS loan for graduate and professional student borrowers (Grad PLUS). The COD System processes Grad PLUS for the 2005-2006 award year and forward and processed the two Grant programs for the 2006-2007 through the 2010-2011 award years.

On September 27, 2007, Congress enacted the College Cost Reduction and Access Act (CCRAA). As a result, the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program was established effective beginning with the 2008-2009 Award Year. On July 1, 2008, the COD System began processing TEACH Grant awards for the 2008-2009 Award Year and forward.

In March 2016, the COD System stopped processing ACG and the SMART Grant awards.

COD provides a common process and an integrated system that enables efficient delivery of Title IV Funds. COD allows for:

Common Processing:

- One process and record for submitting origination and disbursement data
- Edits that are common across the Pell Grant, TEACH Grant, and Direct Loan programs
- Data tags that are common across the Pell Grant, TEACH Grant, and Direct Loan programs, and are (approaching) a cross-industry standard for data definitions
- Elimination of duplicate data reporting for Pell Grants, TEACH Grant, and Direct Loans
- Streamlined edits to reduce turnaround time for exception processing
- Expanded online capability to make corrections/changes, to process "emergency" requests, and to check transmission status

In general, the COD Process is a simplified process for requesting, reporting, and reconciling Title IV funds.

COD WEBSITE COOKIES

The COD Web site uses a "cookie" to help visitors use the web site interactively. A cookie is a small file that a web site transfers to the user's computer hard disk, usually for the purpose of tracking the user while he or she is connected to that site.

The cookie on this site does not collect any information about the user, only about the user's browser session. The cookie makes it easier for users to use the dynamic features on these web pages, without having to provide the same information repeatedly as the user moves from one page to another, essentially confirming that a valid log-in was performed each time the user moves to another page. If a user has his or her computer set to block all cookies, the cookie is not created at log-in. As a result, the COD Web site cannot validate when the user moves from one web page to another. If the COD Web site cannot validate the user, the user's session is terminated, and the user is forced to log in again. **To avoid this situation, all users must set their Internet browser Privacy settings for cookies to "high" or less.**

COD USERS

A COD User utilizes the Common Record in XML format to submit Pell Grant, TEACH Grant, and/or Direct Loan origination and disbursement data to the COD System.

COD Participants may submit data to the COD system in two ways:

- Batch processing of Common Record documents over the Student Aid Internet Gateway (SAIG).

- Manual entry of Common Record data using the COD web site.

Users should refer to 2023-2024 COD Technical Reference, Volume 2 - Common Record Technical Reference for record layouts and processes.

COD Web site & Privacy
For more information about COD Web privacy, please go to: **https://cod.ed.gov/cod/Privacy**

COD Customer Service

The FSA Partner and School Relations Center integrates customer service for the Direct Loan, TEACH Grant, and Pell Grant Programs.

All schools should use the following number or email address listed below for assistance:

FSA Partner and School Relations Center:

- 1-800-848-0978

- CODSupport@ed.gov

The FSA Partner and School Relations Center can also be contacted via live chat on COD Web, upon login.

Transmit all batch files to the SAIG mailbox to be forwarded to COD to be processed

Perform on-line Parent PLUS and Grad PLUS Credit Checks on the COD Web site at: **https://cod.ed.gov**

- The COD System does not print or mail paper MPNs to borrowers or schools. Borrowers may still complete a paper MPN by downloading the form from StudentAid.gov and mailing the completed form to Federal Student Aid.

Mail Promissory Notes to:

US Department of Education

P.O. Box 1130

Fairfax, VA 22038

Overnight Mail:

U.S. Department of Education

4050 Legato Rd #1100

Fairfax, VA 22033

Schools choosing to create Master Promissory Note (MPN) forms instead of using Department provided forms must submit them for testing and review only to:

Submitting MPNs for Test and Review
All documents and shipping packages should be clearly marked "For Testing Only".

US Department of Education

P.O. Box 1130

Fairfax, VA 22038

Overnight Mail:

U.S. Department of Education

4050 Legato Rd #1100

Fairfax, VA 22033

Refund Checks
Effective January 1, 2015 the COD System stopped accepting refund checks.

Refunds of Cash for Pell Grants should be returned using the Electronic Refund function in G5. The Electronic Refund function can be accessed from the G5 "Main Menu."

~~Effective May 22,~~ Later in 2023, G5 will be upgraded to G6 to build a new and modernized grants management system for ED's grantmaking community. G6 will allow users to manage all grants through an upgraded, easy to use, and people-centered user experience. Enhanced grantmaking functionalities are planned to launch at the end of 2023, with additional upgrades coming thereafter, Refunds of Cash for Direct Loans should be returned using the Electronic Refund function in G5. The Electronic Refund function can be accessed from the G5 "Main Menu."

Common Record Overview

The Common Origination and Disbursement process utilizes one single record across programs for both origination and disbursement. Participants use a Common Record, one that uses common data elements, definitions, edits, and structure for Pell Grants, TEACH Grants, and Direct Loans. Although the record has the same layout for all programs, not all data elements are required for each transmission. This record layout relies on a technology called the eXtensible Markup Language, or XML.

The Common Record was developed in partnership with members of the National Council of Higher Education Loan Programs (NCHELP) and the Postsecondary Electronic Standards Council (PESC). This collaborative effort enables the Common Record to bring consistency and standardization to the transmission of student financial aid data.

WHAT IS XML?

XML stands for eXtensible Markup Language. XML is a recommendation by the World Wide Web Consortium (W3C) for how to represent structured information in a text-based format. XML is a markup language whose roots originate in HTML and SGML. Like HTML, XML consists of elements that are defined by tags. A start tag containing a name precedes element data; an end tag follows it. While HTML tags have a specific meaning and generally describe how the text between them should look, XML uses tags only to delimit pieces of data and leaves the interpretation of the data completely to the application. The tags identify data elements and provide metadata, or meaning, for the information that appears between the tags.

The textual and self-describing nature of XML makes its platform independent and very flexible in terms of content. It is an open standard for storing, publishing, and exchanging any kind of information between any number of disparate systems. As long as two parties agree on and adhere to a common data structure, they can transfer information to each other without any knowledge of the other party's operating system, database type or programming language. XML can be used in conjunction with HTML to store data within standard web pages. It can also be used to store data in files and to pull information from disparate, incompatible databases.

One of the objectives behind the design of the COD Process and System was to provide FSA and our partnering student aid schools greater flexibility in record processing, i.e., opportunities for multiple data cross-walks. The COD Process could serve as a technological foundation for future FSA integration initiatives. Given these objectives, XML was the logical choice for the Common Record's format and structure. XML offers the flexibility to design records, known as XML documents, particular to an audience or community. It allows increased access to and reuse of information. It supports validation [edits] by checking structural validity and flagging errors. It also enables systems to share information and users to see different views of available data.

XML 101

XML technology allows a common data packet structure to be used between two disparate systems. It is a markup language that defines data structure. An XML document is the vehicle through which data is transmitted. It can be thought of as a batch.

XML documents are comprised of markup and content. Markup defines the content. For example, `LastName` is the markup describing the content, `Jones`.

<LastName>Jones</LastName>

`<LastName>` is a start tag. Note the presence of brackets. `LastName` is an element. `Jones` is the data, or XML content. `</LastName>` is an end tag.

Elements can be either complex or simple. A complex element is a grouping of attributes or other elements. The Common Record is a logical grouping of complex elements. In the following example, the Complex Element is bolded.

Complex Element:

<Name>

      <FirstName>Heidi</FirstName>

      <LastName>Smith</LastName>

</Name>

A simple element refers to the value that is contained within tags. In the following example, the two simple elements are bolded.

Simple Element:

<Name>

      <FirstName>Heidi</FirstName>

      <LastName>Smith</LastName>

</Name>

FIXED-FORMAT FILES VS. XML DOCUMENTS

Fixed-format files have been used as vehicles through which data can be exported and imported to business applications. Fixed-format files contain a sequence of fields that is in machine-readable language. An example of a comma-separated, fixed-format file follows:

Sally, A, Smith, 299999999, 1980-02-03, IN, DL222222, false, P, 417 Halper Road, Fort Wayne, IN, 46807, Allen, USA, 2197999999, sally.a.smith@email.net, 1, 221784902

In the above comma-separated fixed-format file, it is difficult to understand what the data means. There is also no way to validate the document to make sure that the data is represented in a format that can be read by the receiving application.

XML is a language that is not only machine readable, but also human readable. It also has a mechanism to ensure the validity of the document format through the use of XML schemas. As a result, business applications are rapidly moving toward the use of XML to exchange data. The following example demonstrates that XML not only represents data in a human readable text format, but also provides meaning to the data through the use of tags. This is how a Student record similar to the one represented in the fixed-format file above would be represented in XML:

<Student>

```
        <Index>

                <SSN>299999999</SSN>

                <BirthDate>1980-02-03</BirthDate>

                <LastName>Smith</LastName>

        </Index>

        <Contacts>

                <PermanentAddress>

                        <AddressLine>417 Hapler Road</AddressLine>

                        <City>Fort Wayne</City>

                        <StateProvinceCode>IN</StateProvinceCode>

                        <PostalCode>46807</PostalCode>

                </PermanentAddress>

                <Phone>

                        <PhoneNumber>219-799-9999</PhoneNumber>

                </Phone>

                <Email>

                        <EmailAddress>sally.a.smith@email.net</EmailAddress>

                </Email>

        </Contacts>

        <Citizenship>

                <CitizenshipStatusCode>1</CitizenshipStatusCode>

        </Citizenship>

        <Note>

                <SchoolNoteMessage>New Person</SchoolNoteMessage>

        </Note>
```

Figure 5: A student record represented in XML format

```
</Student>
```

COMMON RECORD STRUCTURE

The XML document called the Common Record is composed of different information modules, referred to as complex elements or blocks. Data fields within the blocks emphasize similarities across programs and contain information such as: document or batch information, school or entity information, person information, award or origination information, disbursement information, and the response status of the record.

A general rule regarding sequence of data within blocks, and within complex elements: the start and end data tags and their content must be presented on the XML document within the block's tags or the complex element tags to which they belong. The sequence of the data within that block or element is dictated by the sequence of the data tags presented in the XML Common Record Schema. For example, if a complex element has ten simple elements within it, those ten elements must occur in the same sequence as depicted in the XML Common Record Schema.

The Common Record is organized into the following structure:

Quick Reference Block Description

Number	Block Name	Block Description
1	Document Information	The Document Information Block contains information that was previously associated with a batch. It contains a date/time stamp, document validation information, summary-level document information, as well as the source of the document. This block occurs once per XML Document or submission.
2	Entity Information	The Entity Information Block contains information about the reporting and attending school. This block occurs once per reporting entity or school within the XML Document or submission.
3	Person Information	The Person Block contains student or parent information. This block occurs once per person, except for Grad PLUS where there will be two person blocks with identical data. All data within the two blocks must be identical.
4	Award Information	The Award Information Block contains Direct Loan, Pell Grant, and TEACH Grant award information, similar to origination data submitted in the fixed-length record layouts. As other partners use the Common Record to transport data, this will be the location of those awards. This block occurs once per award per person.
5	Disbursement Information	The Disbursement Information Block contains Direct Loan, Pell Grant, and TEACH Grant disbursement information. This block occurs once per disbursement.
6	Response	A Response block is nested within each block. The Response block is returned by COD to the submitting entity upon processing the Common Record. The Response block contains information about processing edits and document status.

Figure 6: How COD is organized regarding quick reference blocks

Below is a pictorial representation of the Common Record layout. It illustrates how the Common Record is comprised of information modules or blocks.

The Common Record Document Structure

```
<CommonRecord>
    <Entity>
        <Person>
            <Award>
                <Disbursement>
                </Disbursement>
            </Award>
        </Person>
    </Entity>
</CommonRecord>
```
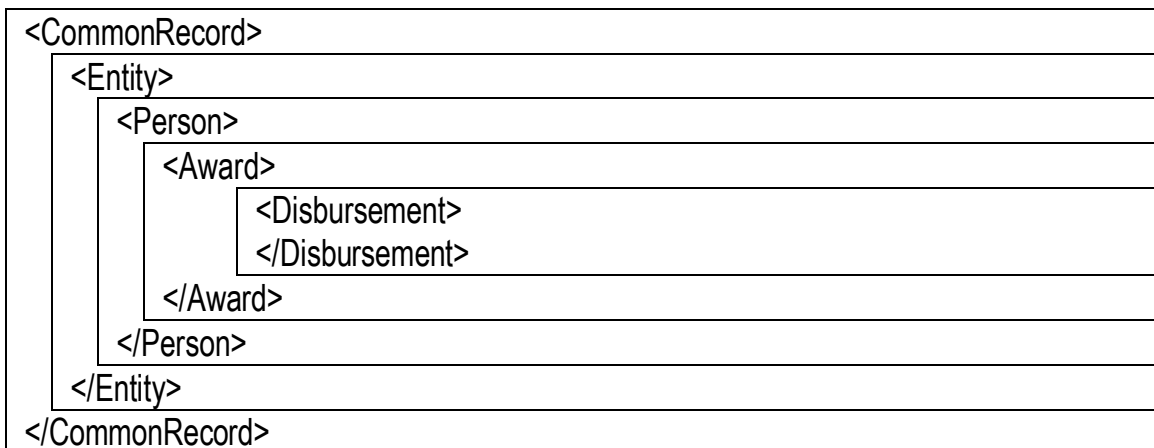
Figure 7: Example of a Common Record Document Structure

These information modules or blocks may be reused many times in the same record to transmit data for multiple awards and multiple disbursements for one or multiple students by one or multiple Attended Schools.

XML SCHEMA

An XML Schema specifies the rules surrounding the logical structure of an XML document. It is a language that describes the allowed content of documents. It defines the elements present in the document and the order in which they appear, as well as any attributes that may be associated with an element.

To support the open standards proven effective in the development of the Common Record, FSA is making the XML Schema for the Common Record available electronically to all interested parties. Whether a school, a software provider, or a third-party servicer is using it for product development to support COD or any student financial resource trading partner is interested in incorporating the Common Record into their products and services, the schema is available on the web at: https://fsapartners.ed.gov/knowledge-center/library/resource-type/COD%20XML%20Schema

Schema Version
All records containing 2022-2023 (and forward) data should be submitted in the 5.0a schema.

Schools may continue to send records for prior Award Years in earlier schema versions (4.0a, 4.0b, 4.0c, 4.0d, and 4.0e only).

XML RESOURCES

Extensible Markup Language (XML) is a growing standard for e-commerce, data transmissions and structured documents using the Internet. Many industry groups are developing schemas and data dictionaries for this purpose. As a result, there is extensive information available about XML and the initiatives specific to the higher education community. Many institutions are already using XML for their own Internet initiatives, including self-service applications for students, faculty, and staff; data exchanges both within and outside the school, and even data coordination or backup with data warehouse projects.

Available resources about XML include courses at many institutions and local or Internet bookstores. The Web is also a resource, including the sites mentioned below. The first three are international standards bodies, and the last is specifically for the schema and data dictionary for higher education.

- http://www.w3.org

- http://www.ebXML.org

- http://www.oasis-open.org

- http://www.PESC.org

- Sun's XML & Java Technologies: http://java.sun.com/xml

- The XML Industry Portal: http://www.xml.org

- O'Reilly XML.com: http://www.xml.com

- The XML FAQ: http://www.ucc.ie/xml

Literature is constantly being updated as new technologies develop and mature. Therefore, it is recommended that time be spent exploring these resources.

Common Record Processing

This section addresses at a high level the processing of the Common Record from the institution perspective.

The COD Process is comprised of the following steps:

Figure 8: The COD Process

Please note that this overview of the COD Process will not cover the entire cycle for a school. There are items that take place prior to the submission of records (i.e. packaging) that are not explained in this document.

COMMON RECORD SUBMISSION

The COD Process begins when a school submits a Common Record. The Common Record is submitted by schools in one of two ways:

- Batch Submission via SAIG

- Manual Online Submission via the COD web site

BATCH SUBMISSION

All Common Records sent in batch mode are submitted to COD's Student Aid Internet Gateway (SAIG) mailbox. The Enterprise Application Integration Bus (EAI Bus) performs periodic sweeps of COD's SAIG mailbox and transmits the Common Record data to the COD System.

ONLINE SUBMISSION

A COD User can manually enter data online via the COD web site. The COD Web site creates a Common Record document for data entered online and sends it directly to the COD System.

COMMON RECORD RECEIPT

In March 2016, the COD system stopped generating and sending receipts for Common Record documents received via SAIG.

COMMON RECORD PROCESSING

Upon receiving a record, the COD System classifies the record to determine how it is to be processed. The types of records are:

- New Record

- Update/Maintenance Record

NEW RECORD

A New Record establishes a new person, award or disbursement on the COD System. There are three types of new records:

New Person with New Award – If the SSN contained in the student identifier does not match any previously submitted to the COD System, then the record is considered a New Student. Any New Student Record must contain a New Award Record. For Pell Grant, TEACH Grant, and Direct Loan Subsidized/Unsubsidized, the Student Identifier submitted by a school to establish the student on COD is matched to data from the Central Processing System (CPS).

- For Pell Grant and TEACH Grant, the current SSN, current Date of Birth, and first two characters of the current Last Name are matched with CPS data.

- For Direct Loans, the current SSN and current Date of Birth are matched with CPS data.

New Award – If the student identifier matches an SSN already established on the COD System, then the system checks to determine if the award is already on file. If not, then the record is considered a New Award.

New Disbursement – If the person and award already exist on the COD System, then the system checks the disbursement number submitted for the award. If it is not already on file, then the system logs the disbursement as a new disbursement. There are two types of disbursement records:

- Actual Disbursement – Actual Disbursement Records contain a <DisbursementReleaseIndicator> equal to true. The <DisbursementReleaseIndicator> is a tag on the Common Record that signals to the COD System that the disbursement information is an actual disbursement. It either makes funds available to a school, or substantiates cash already made available to the school. These records affect the Current Funding Level (CFL) calculation for the school. This can be thought of as the actual disbursement record in the old fixed-length record process.
- Award Already on File – For Direct Loans and TEACH Grant, the Financial Award Type, Financial Award Year, Attended Entity ID, Reporting Entity ID, and Financial Award ID fields are checked to determine if the award is already on file.
- Anticipated Disbursement – Anticipated Disbursement Records contain a <DisbursementReleaseIndicator> equal to false or omitted. If the <DisbursementReleaseIndicator> is omitted, the indicator will default to false. These disbursements are not considered Actual Disbursements; therefore, they do not substantiate drawdowns. These records do not affect the CFL calculation for the school.

UPDATE/MAINTENANCE RECORD

An Update/Maintenance Record performs a change to information or elements that were previously established on the COD System by a New Record. There are two types of Update/Maintenance Records:

- Update/Maintenance Record – An Update/Maintenance Record performs a change to a data element that was previously established by a New Record or is used to change disbursement amounts and dates that occur prior to substantiating drawdowns.
- Release Record – A Release Record can be submitted to the COD System with a <DisbursementReleaseIndicator> equal to true for a disbursement record previously submitted as an Anticipated Disbursement Record. Data elements can be changed via the COD Web site or by resubmission of a Common Record. Once the release indicator is set to true, there will no longer be an anticipated disbursement on the system with the same disbursement number as the actual.

COMMON RECORD EDITING

Once the Common Record is received and has been classified, the COD System performs a series of valid format and content edits to determine if the file is suitable for further processing.

The COD System performs three types of edits:

- Correction – For Pell Grant data, if the school selects this option, the system automatically corrects the data and sends a response to the entity that submitted the record indicating that a correction took place, the element corrected, the original value, and the corrected value. The default option in the COD System for all schools is set to 'correct'. If a school wants to have COD reject data instead of correcting it, then it must contact the FSA Partner and School Relations Center to request that FSA make this change.
- Warning – The COD System sends a response to the entity that submitted the record indicating a warning, the warning code and the relevant element. The record continues to be processed by the COD System.

- Reject – The COD System sends a response to the entity that submitted the record indicating the reject code, the reject reason(s) and the relevant element(s). The record requires action from the school to continue processing.

Where possible, COD uses information from CPS as a basis for these edits. COD receives the information from CPS on a daily basis. This file is used to:

- Confirm a valid ISIR is on file (if applicable) and,

- Pull student-level information required for Common Record processing.

Note:
The Common Record can be resubmitted in its entirety or sent with just the key identifiers, minimum data elements required for processing, and those data elements that have changed.

The COD System performs edits on the Document, Entity, Person, Award and Disbursement levels of the Common Record data. Data that passes edits is accepted and continues to be processed while data that does not pass edits is rejected. The COD System stores rejected data and associated reject reasons. Rejected data is held for corrective action to be taken by the school. Data can be corrected via Common Record re-submission or via the COD web site. The COD System then returns a response record notifying the school of the edit results.

RESPONSE DOCUMENTS

For all Common Records received and processed by the COD System, the COD System returns a Response document indicating the status of the Common Record processing, including any rejected data elements and the reason for the rejection. If the Common Record was accepted, then the Response document indicates that the record was accepted.

The COD System sends one Response document for each Common Record document submitted. For Common Records that are transmitted via the SAIG, the COD System sends Response documents to the school's SAIG mailbox. For Common Record data entered into the COD web site, schools have an option to receive a Response document via their SAIG mailbox in addition to seeing the response via the COD Web site.

For Responses received via the SAIG mailbox, schools also have the option to receive a Full or a Standard Response to Common Records processed by the COD System. A Full Response contains all the original tags sent by the school and the rejected data elements and reason codes. A Standard Response contains only the minimum tags, the rejected data elements and reason codes.

Record Layouts and Processes

For further information regarding record layouts and processes, schools/software vendors should refer to Volume 2 – Common Record Technical Reference.

For examples of COD Response Documents, please refer to Volume 6, Section 5 – XML Examples and Volume 7, Section 1 – COD System Generated XML Response Files.

If you use a combination of EDExpress and another system, please refer to Volume 3 – Pell Grant & Direct Loan Combination System Supplement for record layouts, processes, and edits pertinent to working in a combination system.