

FedState Modernized (MeF) E-File "101"
Federation of Tax Administrators
Guide to
Implementing FedState MeF

Version 1.1

NOTE: This is the first published version of this document. Please send any comments, including suggestions for improvement, to any of the contacts listed in the last section.

FEDSTATE MEF BEGINNINGS

What is Modernized eFile (MeF)?

MeF is an integrated, web-based replacement for the existing electronic filing platform which uses new architecture for electronic filing and introduces a more efficient and scalable efile system. Not unlike initiatives in many states, the IRS MeF platform provides the taxpayer with the ability to conduct all interactions electronically and allows account management among payers, employers and tax authorities.

What does MeF mean to States?

In tax year 2003, the Internal Revenue Service extended e-file capabilities to the 1120 and 990 family of taxpayers through the MeF system. In addition, the IRS proposed that the states develop a joint federal state corporate e-filing known as FedState 1120. Oversight for the program would be provided by the Federation of Tax Administrators (FTA) – IRS Tactical Advisory Group (TAG), while technology standards would be developed through the FTA-sponsored TIGERS group, a workgroup of the Government Subcommittee/ASC X12 (part of the American National Standards Institute national standards body).

FTA solicited a State Deployment Team to address the business issues of the new program, while TIGERS created a development team to build the technology foundation of the MeF FedState program. In addition to development for the FedState 1120, TIGERS is now in the development stages for the FedState 1065, partnership returns, and preparing for the conversion of the existing FedState Individual Income Tax to the FedState 1040 (MeF platform).

TIGERS – What is it?

The Tax Implementation Group for E-Commerce Requirements Standardization (TIGERS) was formed in October 1994 by FTA, the states, the IRS, and business and service provider representatives, initially to provide an overall coordinative body for advice and counsel on government technical implementation of American National Standards Institute (ANSI)-based tax-related electronic data interchange applications.

The TIGERS initiative is modeled on previous successful industry-cooperation models in the petroleum, pharmaceutical, power, and other industry sectors. It began with efforts to model standard transactions in the area of electronic data interchange (EDI), and is now involved in similar initiatives for eXtensible Markup Language (XML).

TIGERS seeks to ensure success by providing a forum for users to regularly meet together and agree upon on "conventions" for the national-standard formatting of electronic business data. For example, it develops agreements on data formats, the names of data items (Name, Address, etc.) and the like within tax-related electronic transmissions for the tax administration industry, and publishes the results of these agreements. This is done in full support of ANSI ASC X12 efforts, and under its umbrella.

Dependent upon voluntary participation by business specialists and technical personnel from varied government and industry participants, the aim is to ensure that these data format and identification agreements are ultimately in agreement with and are vetted

through ASC X12, and are widely used and adhered to by governments and businesses which wish to trade together.

The goal is to achieve a great deal of uniformity and consistency in how standard transactions such as tax returns and other transactions are treated within the tax administration community. This significantly lowers the cost to all parties in understanding, documenting, and applying technology, leading to maximum business benefit for every trading partner involved.

Third party service providers such as software companies which can facilitate electronic trade are particularly advantaged, as this enables them to deliver services and products faster and more economically to their customers.

FedState Electronic Project Costs

In addition to any state's implementation costs, a fee is required to be paid by the state to FTA to underwrite the development and continuing technical maintenance of FedState electronic filing technology standards, so that resources for these efforts can be made available for support on an ongoing basis.

At the March 2005 meeting, the FTA Board of Trustees passed a resolution establishing a policy regarding financial support for the development and implementation of joint Federal and State (FedState) electronic filing projects.

FTA requests payment of an established amount from each state at the time it determines to enter into participation in each FedState Electronic Filing Program under development; upon joining the state will also assume a commitment to pay annual technical maintenance costs. To date the costs have been quite modest. State participation costs for FS1120 and FS1065 have run from \$1,500 - \$2,500 per program per state depending on the size of the state. Annual maintenance fees to date have been \$700 - \$900 per program, per state.

During the last three years we have learned more about the process and technical support needed for the development and maintenance of the XML schemas. The cost of support has proven to be greater than expected, especially as multiple FedState programs have come on-line. Thus, the individual state cost for maintenance will increase beginning in FY 2007. However, for a small state participating in all three programs being developed (FS1120, FS1065, and FS1040) the total for maintenance is not expected to exceed \$5000, and for a large state, \$9000 annually.

FedState Electronic Project Meetings

TIGERS meets six times annually. Each participating entity pays its own way, and FTA contributes resources to support TIGERS as appropriate. TIGERS meets during the X12 Trimester sessions (generally the first full week of February, June, and October). It also meets in between each of these sessions (TIGERS Interim meetings). Generally the interim meetings are held in April or May (in conjunction with the FTA E-File Symposium), in August (along with the FTA Annual Technology Conference), and in December (often a state tax agency or an industry participant arranges and hosts the meeting).

Meeting Costs

Meeting Costs described below do not include transportation, lodging or meals.

Each individual participant representing an ASC X12 non-member organization wishing to attend ASC X12 Trimester work sessions must pay a registration fee, currently \$895 per meeting. There is no Trimester session registration fee for as many representatives as an X12 member organization would like to send when the annual ASC X12 membership dues is paid. The membership fee for states was recently reduced from \$3000 to \$1775 annually, and is designed as an incentive to state government agencies to join X12. Membership fees for private industry are on a sliding scale depending on the size of the member organization.

Membership is available to individuals, associations, corporations, and government entities. Non-members may actively participate in and vote on matters coming before X12 Task Groups such as TIGERS, but not before any higher-level X12 body. (Contact the Data Interchange Standards Association, Secretariat for ASC X12, at www.X12.org for further details on standards approval processes).

There is a moderate FTA registration fee (under \$100) to attend and participate in the Interim (non-X12 Trimester) meetings. These meeting occur in March, August and December annually. This fee serves to enable FTA to provide meeting rooms and refreshment breaks.

Participation

While a state may participate in the Fed/State MeF programs without participating in TIGERS, participation in TIGERS meetings and conference calls is very strongly recommended. Decisions concerning technology standards for the program, including state data formats, communications protocols between the IRS and states, and security technologies are all presented, refined, and discussed at TIGERS sessions. A state that chooses not to participate may not have input into these decisions, and may not have access to in-depth discussion of implementation approaches for these technologies. In order to maximize the benefits of TIGERS participation, state representation should include at least one business specialist with in-depth understanding of the specific tax program, and one technical person.

FEDSTATE MEF IMPLEMENTATION

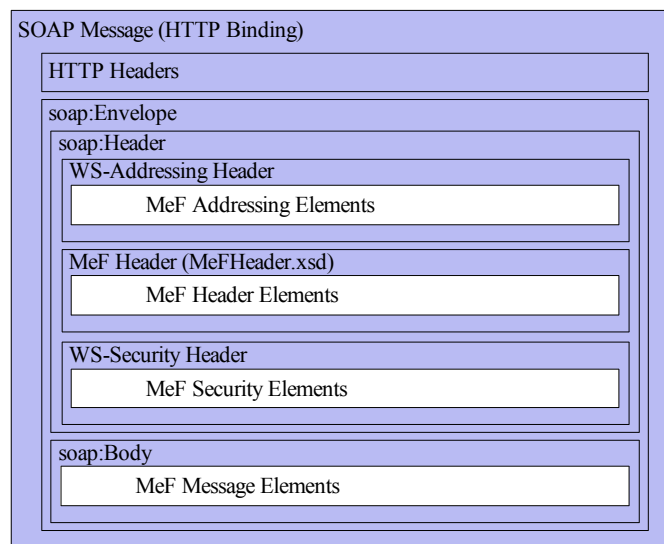
There are six major tasks that states must complete to implement the FedState MeF programs. These tasks include:

- Building a communications gateway
- Adding data elements to the Master Schema
- Defining State Business Rules
- Developing a Back-end System
- Creating a View System
- Complete Administrative Duties

Each task is described in greater detail below. However, this document is not intended as a comprehensive technical how-to manual; rather it is intended as guidance to the states to ensure that the state is prepared to dedicate the appropriate resources and effort to the success of the Fed/State MeF e-file program.

I. Build Communications Gateway

Modernized eFile (MeF) supports a Web-Service channel (a.k.a. Application to Application channel or A2A channel). No human intervention is required to conduct business with MeF when A2A is utilized. In this channel, SOAP with HTTP binding is used as the underlying protocol. The data exchanged is in the format of SOAP messages and the transport mechanism is HTTPS. The data content is in Extensible Markup Language (XML) files which are zipped together in Zip Archive format to create a single binary payload. Each "state submission" within the payload – the state filing for one taxpayer - has only one file of state return data, a copy of the federal return data when required, and non –XML documents (in PDF format) when required. A message may contain one or more submissions.



MeF Basic SOAP Message for HTTP Binding

1. Gateway to/from IRS

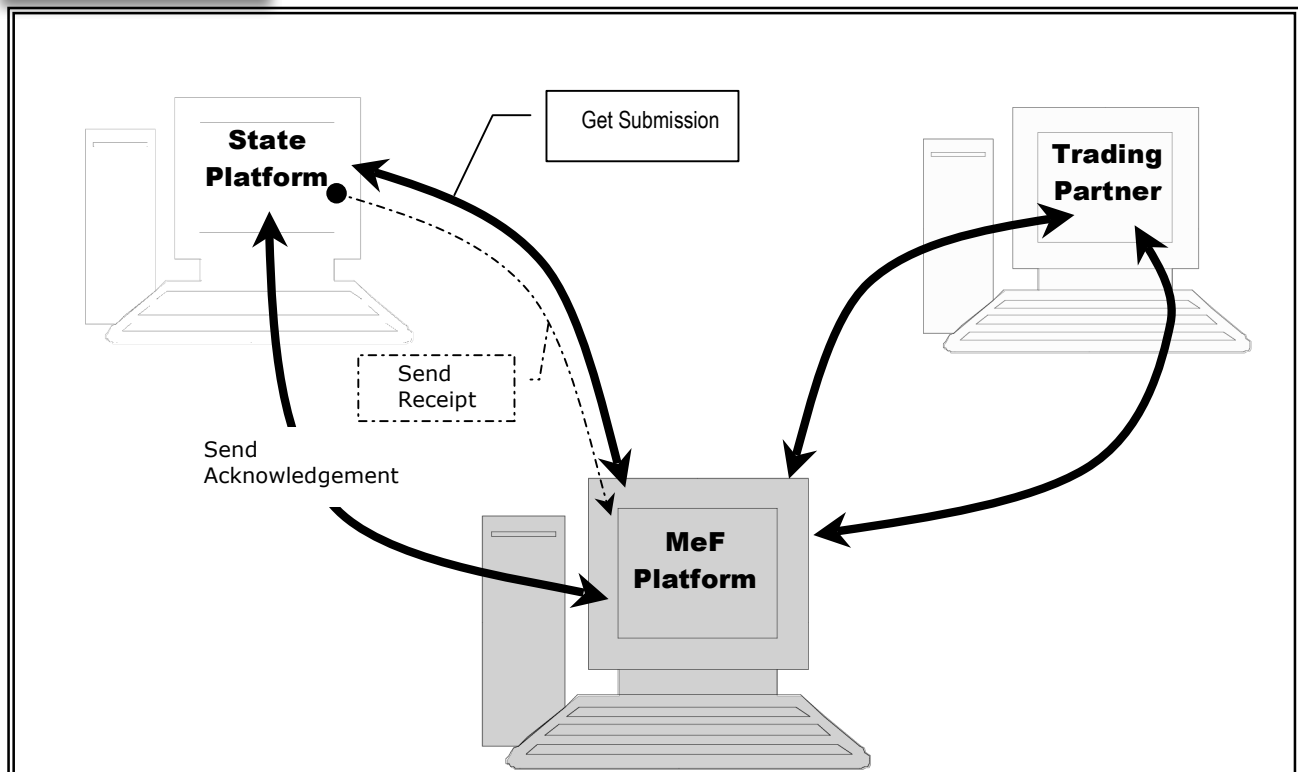
Each state participating in the Fed/State MeF programs must implement a web services gateway for communication with IRS to request and receive returns and to provide acknowledgements. The exact specifications for the web services, including the web services definition language (WSDL), are provided by IRS. (Illustration 1).

Although IRS does support other protocols, Fed/State returns will only be transmitted to the states through the IRS Application-to-Application services. And, the state system and its delegates will be required to register with the IRS.

A taxpayer's state submission may be linked to the taxpayer's federal submission through a parameter in the state submission. The federal and state submissions may be transmitted in the same message payload, or they may be transmitted separately. In these "linked" submissions, the state submission is not sent to the state by the IRS unless the linked federal submission has been accepted by the IRS. A state submission which is not linked to a federal submission is sent to the state by the IRS regardless of whether a federal submission has been accepted by IRS for this taxpayer.

The state system currently supports a maximum of 5 multiple concurrent sessions for each system ID. Unlike the current Fed/State Individual Income Tax E-File program, submissions (returns) will be transmitted individually, rather than in a batch of 3,000, and are made available on a continuous basis, as they are received and processed by IRS, rather than on scheduled batch "drains". In addition, the state can transmit acknowledgements and receipts while receiving submissions simultaneously when multiple concurrent sessions are used.

ILLUSTRATION 1



2. Technical Specifications Documentation

a. Interface Control Document (ICD)

The Interface Control Document (ICD) is the documentation published by IRS that provides standards which the state must use for web services communications between the state and the IRS. The standards include such topics as SOAP messages, transmission (payload) package, etc. This document does not include the WSDL (web-services descriptive language), which is provide separately.

Because the MeF platform is new for the FedState programs it was necessary to determine how the transmission and operational processes would work. The IRS developed and now provides detailed documentation of system requirements to their Trading Partners (all states are consider trading partner and transmitters)

b. Concept of Operations (ConOps)

The Concept of Operations (ConOps) of MeF FedState System contains a conceptual overview of the MeF FedState system. The ConOps provides information and definitions on the following:

- Originators
- Transmitters
- Security Management
- Communication Types
- Transmission Types
- Messages
- Submissions
- Service Request Types
- Transmitter Service Requests
 - Send Submissions
 - Get New Acknowledgements
 - Get Acknowledgements
 - Get New Submission Status
 - Get Submission Status
- State Agency Service Request
 - Get New Submissions
 - Get Subimssions
 - Send Submission Receipts
 - Send Acknowledgements
 - Get New Acknowledgement Notification Request
 - Get Acknowledgement Notification Request
- Service Request for Transmitters or State Agencies
 - Time Login
 - Logout
 - Change Password
 - Request ETIN Status
 - Request list of ETINs
 - Request list of State Participation Service Request

Processing Submissions
IRS Submissions
State Filing Options
FedState Submissions
Stand-Alone State Submission

c. Web Services Definition Language (WSDL)

The WSDL is provided directly from the IRS. The WSDL is code in XML format and is used by the state's web platform (generally either Microsoft .Net or J2EE) to build the state's proxy code automatically, for example when used with WSDL.exe for Microsoft users.

Carol McLaughlin, 1120 Project Manager will provide the ICD, ConOps, and WSDL via email to individual states. Carol's Contact information is as follows:

Email: Carol.M.McLaughlin@irs.gov.

3. Security

For the initial tax year 2005 filing season of Fed/State 1120, security measures included passwords and session keys, described in the ICD. The Internal Revenue Service is planning to make changes to the security, and to require that session initiation requests be signed with a digital certificate registered with IRS. Exact specifications are being discussed at TIGERS, and new WSDL supporting this stronger authentication is available through TIGERS at this time.

4. Analysis of Receipt Pattern and Size

XML files are larger than non-tagged data, and Corporate 1120 returns can be extremely large. States must be prepared to monitor transmission volumes and patterns of receipt and adjust system capacity, number of concurrent sessions, and frequency and timing of requests accordingly.

II. Add Data Elements to the Master Schema

1. TIGERS Role

- i. TIGERS has been designated by the IRS and FTA as the body to develop the technical standards for the Fed/State MeF programs. TIGERS pioneered the concept of the Master Schema set, which is an XML format definition which contains all data elements utilized by all participating states in the filing of the tax type in question. In addition, TIGERS is the controlling entity for change requests and any activity that could potentially alter the Master Schema for any of the Fed/State programs.

What is a schema?

A *schema* is a model for describing the structure of information. It's a term borrowed from the database world to describe the structure of data in relational tables. In the context of XML, a schema describes a *model* for a whole class of documents. The model describes the possible arrangement of tags and text in a valid document.

In schemas, models are described in terms of *constraints*. A constraint defines what can appear in any given context. There are basically two kinds of constraints that you can give: *content model* constraints describe the order and sequence of elements and *datatype* constraints describe valid units of data.

The purpose of a schema is to allow machine validation of document structure. Every specific, individual document which doesn't violate any of the constraints of the model is, by definition, valid according to that schema.

The ability to test the validity of documents is an important aspect of large web applications that are receiving and sending information to and from lots of sources. If you're receiving XML transactions over the web, you don't want to process the content into your database if it's not in the proper schema. The earlier and easier it is, to catch this sort of error, the better off you'll be.

Written by: *Norman Walsh*, Senior Application Analyst
ArborText, Inc – July 1, 1999

2. Adding Data to Master Schema and Spreadsheet
 - i. Each state must provide all data elements from the relevant tax forms for each MeF program in a pre-defined spreadsheet format. A standardized spreadsheet has been developed by TIGERS and is required to be used by states that participate in the FedState MeF programs.
 - ii. The Master Schema cannot be organized by tax form and schedule, because forms and schedules vary widely from state to state. Instead, the data is organized by logical groupings referred to as "categories," such as Income, Additions to Income, Deductions, etc.
 - iii. States are required to organize their data elements by the established categories.
 - iv. The compiled set of data elements for each category is then used to generate a sub-schema of the Master Schema.
 - v. Use of Existing Elements, State Agreed Upon Names and EFile Types

What is an element?

An element is the basic building block of a schema. It represents one item of information, such as a line item on a tax form. In order to ensure that all of the taxpayer's data is received in the Fed/State MeF filing, each and every item of information on the corresponding forms and scheduled, even checkboxes and free-form answers to questions, must be mapped to lines on the TIGERS spreadsheets, in order to become elements in the Master Schema.

What is a State Agreed Upon Name?

Each element in an XML schema must be identified by a unique tag name. However, states may call similar line items on a return by slightly different names. In order to keep the Master Schema of manageable size, and also in order to provide the consistency and standardization which is of benefit to both the taxpayer and the software developer, it is necessary for the states to agree on an arbitrary, but acceptable common name for each element, such as "AdjustedGrossIncome." As each new state adds data to the spreadsheet, it must use the element names that have been agreed upon by the states through the TIGERS process.

What is an Efile Type?

XML has the concept of "simple" and "complex" element definitions or "types." A simple type, such as a single amount with eighteen significant digits and two decimal places, stands alone. A complex type is made up of sub-elements, such as an address made up of street address, city, state, and zip code. Multi-layer complex types are used to represent the various table structures that often appear in tax forms and scheduled. The IRS has created an XML file of standardized, commonly used simple and complex type structures, and coined the term "efileTypes" to refer to these structures. TIGERS has augmented this file with a similar file of state efileTypes, that is, simple and complex XML structures that appear across state tax filings. Just as state must use established element names, they must also use established standard efileTypes for simple and complex structures needed for their state MeF efile program.

- vi. States are required to use existing elements, "state agreed upon names" and Efile (complex) types when adding their data to the Master Schema spreadsheets, in order to reduce duplication and maintain standardization.
- vii. If no element exists which meets the state's needs – **which is unlikely** - states may add elements, but element names must conform to element naming conventions (see rules).

RULES: NAMING ELEMENTS

- Names can contain letters, numbers, and other characters
- Names cannot start with a number or punctuation character
- Names must not start with the letters xml (or XML or Xml)
- Names cannot contain spaces, and underscores are discouraged
- Names are "Upper Camel Case" – words are concatenated and the first letter of each word is capitalized. For example: 2005 state filing period would use the following element naming convention:
 - StateFilingPeriod2005
- Element names **cannot** be longer than 30 characters, due to restrictions imposed by some database products. However, element names should be as short and simple as possible to still be clear and descriptive.
- XML documents often have a corresponding database, in which fields exist corresponding to elements in the XML document. A good practice is to use the naming rules of your database for the elements in the XML documents.
- Non-English letters like éòá are perfectly legal in XML element names, but watch out for problems if your software vendor doesn't support them – they are not recommended for TIGERS use.
- The ":" should not be used in element names because it is reserved to be used in XML schemas to denote special parameters such as namespaces.

3. TIGERS Approval – Add/Change Policy

A state may disregard optional data elements (all elements are optional to states) not used by that state, but may not alter the schema structure or add additional data elements except through the TIGERS process.

- i. Changes and/or addition to the State Master Schema must be submitted using the TIGERS Change Control Procedure. The change control procedure is designed to promote consistency and uniformity of the State Master Schema.
- ii. TIGERS Change Control Procedure is located at <http://www.taxadmin.org/fta/edi/xmldev.html> on FTA's website, and on the working site for Fed/State MeF development, www.statemef.com.
- iii. For states that are just joining the program for tax year 2006, begin by using the TY2006 schema version 1.0. Detailed instructions for completing the data spreadsheets are found on the working site, and **MUST BE FOLLOWED EXACTLY**. Because an automated program is used to generate the Master Schema from the spreadsheets, any failure to follow procedures **MAY CAUSE STATE DATA TO BE OMITTED** from the resulting version of the Master Schema.

Please refer to the instructions document in completing the spreadsheets, as it is subject to change. However, the following is intended to illustrate the general nature of the process.

1. Use elements that are currently used and approved wherever possible.
2. If the state can use an existing element, copy the existing element line on the spreadsheet. Add the copied line to the spreadsheet. Replace only the state indicator with the

appropriate state name. For example if you need an element "city", copy the line, like the one below.

| | | | | | | | |
|---------|-------|--------|------|------|------------|---------|-------------|
| Arizona | AZ120 | Page 1 | City | City | HdrAddress | Address | AddressType |
|---------|-------|--------|------|------|------------|---------|-------------|

On the copied line, change the state, form number, line and/or page as appropriate for your state. For example
Change Arizona to Nebraska
Change AZ120 to form 1120N

| | | | | | | | |
|----------|-------|-----------|------|------|------------|---------|-------------|
| Nebrashs | 1120N | Page 1 | City | City | HdrAddress | Address | AddressType |
|----------|-------|-----------|------|------|------------|---------|-------------|

- To Add a new element to an existing category, add a new line to the spreadsheet and complete all of the columns with the appropriate data.

III. Define Business Rules

1. State Schema

The Master Schema, since it contains all data for all participating states, clearly contains data that a particular state cannot use and does not want to receive. Additionally, all elements in the Master Schema are optional, since not all states may use them, while a particular state may wish to make certain data mandatory for all taxpayers. For these reasons, each state is allowed to create a "state specific schema" which is derived from the Master Schema and contains all data elements specific to your state. This schema is provided to third party vendors for development purposes, and is used by the state to validate the incoming XML data.

TIGERS imposes strict rules on the creation of state specific schemas, in order to continue to maintain consistency and standardization across states. These rules include:

- States may not add any elements to the state schema that are not in the Master Schema. If additional elements are needed, they must first be added to the Master Schema using the TIGERS process.
- States may not change the structure of the schema – for example, they may not move a data element to another category.
- States may restrict elements to shorter length than the Master Schema or to specific values, but may not expand elements.
- To put all of this in technical terms, any XML file which validates against the state specific schema must also validate against the Master Schema.

When individual states further restrict these schemas to meet the state's business needs, this is accomplished by setting restrictions in the Business Rule Document or Software Developer's Guide, which must be developed by each state.

2. Business Rule Document – State Specific Spreadsheet (ILLUSTRATION 2)

The most important purpose of the Business Rules Document – used as, and generally called the Software Developers Guide, is to convey the state-

specific rules used to derive the state specific schema from the Master Schema. This may be done using a standardized spreadsheet developed by TIGERS – a SLIGHTLY DIFFERENT spreadsheet format from that used to add the state’s data to the Master Schema. The purpose of the standardized spreadsheet is to allow each state to distribute, in the same manner to the business community, both internal and external to the state, the information used for State Return transmissions to the respective state.

- Each state is to utilize the spreadsheet the same way for business continuity and standardization throughout all participating states in the United States.
- The only optional column to a state is the inclusion of the error code for an acknowledgement at the end of the document. Otherwise, all columns must be filled in appropriately with the parameters listed below for each column.

ILLUSTRATION 2

| | A | B | C | D | E | F | G | H | I | J |
|---|--------------|--------|-------------|----------|--------------------------------|--|---|--|------------------------------|------------|
| 1 | Ref | State | Form Number | Line | Field Name | Field Description | Schema Category | XPath | Element Type | Field Type |
| 2 | 1 | State | Form Nbr | Line Nbr | State Name Given | State Field Description | Header.root | header/doctype/category/@parent/child/ancestor | XML Elem Type (state or IRS) | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| | K | L | M | N | O | P | Q | | | |
| | Length | +0 | Occurs | Required | Mask | Rule/Validation | Error Code*** | | | |
| | State Length | Number | Multiple | YES | Format of field (ie. CCYYMMDD) | State Validations that will be performed | State Error Code for Acknowledgement (Optional) | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

3. Binary Attachments

The MeF submission may also include non-XML documents, known as “binary attachments” submitted in PDF format. These attachments are included in the tax return as a separate file or files within the Zip Archive payload. The binary attachments allow taxpayers to provide requested documentation that includes required signature documents as well as third party documents such as corporation balance sheets and miscellaneous documents required for validation of some credits.

States must first determine their requirements for taxpayers to include these binary attachments. Ideally, any document that is required to be filed with a paper return should be attached in PDF format, so that it can be filed and viewed electronically. Many of the benefits of electronic filing are lost when the filing depends on some part of the documentation having to be sent as paper. The issue comes with “nice to have” documentation, since PDF files are generally large (although Adobe Release 7 does add significant compression). States are advised to use best judgment in requiring PDF attachments. The Business Rules Document or Software Developers Guide must then clearly state the PDF requirements.

States must decide how they choose to have the binary attachment files identified, and specify naming conventions for each attachment required. This IRS Pub 4164 – *Modernized eFile Guide for Software Developers and Transmitters*, has many examples of naming convention that a state might

want to adapt for their needs. Below are just a few examples of the identifiers.

| CONDITION | BINARY ATTACHMENT TITLE |
|--|-------------------------|
| If you attach a scanned 8450, the name must be | 8453 Signature Document |
| If you attach a Form 1120-L, the name must be | Form 1120-I |

4. Federal Return Data

Most states require that a copy of the Federal return be submitted along with the corresponding state return. In the Fed/State MeF programs, as is the case with the current 1040 efile, this is a separate copy of the federal data that is created by the software as part of the state submission – the IRS does not provide a copy of the federal return. In the case of Corporate returns, the issue becomes more complex, because rules for inclusion of federal data are not uniform. States may require the complete federal 1120/1120S, or may just require the first four pages. In the case of an out-of-state consolidation with an in-state subsidiary, the state may only require a pro forma return for the corporation, or it may require copies of both the complete consolidated return and the subsidiary pro forma. The state must clearly document its requirement in the Business Rules document/Software Developers Guide.

NOTE: The federal return data will be transmitted in a zipped sub-file of the state submission. All federal forms and schedules will be in XML format, following the schemas published by IRS. The file may also include PDF documents that were sent to IRS with the federal filing.

5. Industry/ERO Manual

These publications provide information necessary for the Electronic Return Originators, Transmitters, and Software Developers. All of the information currently sent to industry participants in efile programs, including due dates for filing and payment, payment methods accepted, contact and error resolution information, etc., must still be provided for Fed/State MeF. Below is a suggested outline of the document. While each state may have some unique requirements, the use of this outline helps to ensure that all of the essential items are included, and helps again to foster consistency and standardization among states.

1. INTRODUCTION
 - Identify schema version number
 - Brief description of the State's program
2. CHANGES FOR TAX YEAR 20??
 - Identify all changes related to legislation, procedure or policy
 - Identify if schema version has changed
3. CONTACT PERSONNEL
 - IDENTIFY CONTACT PERSONNEL
 - LIST TELEPHONE & FAX NUMBERS, EMAIL AND MAILING ADDRESSES
4. ACCEPTANCE AND PARTICIPATION
 - PROVIDE A LIST OF REQUIREMENTS NEEDED TO PARTICIPATE IN THE STATE'S PROGRAM
5. DEVELOPERS RESPONSIBILITIES
 - CONFIDENTIALITY – LIST ANY CONFIDENTIALITY GUIDELINES, RULES AND VIOLATION CONSEQUENCES
 - COMPLIANCE REQUIREMENTS
 - PUBLICATIONS
 1. WEBSITES– REFERENCE FOR CON-OPS, FORMS, INSTRUCTIONS
 - STATE PUBLICATION – GUIDELINES AND ERROR CODES
 1. MISCELLANEOUS
 - TIMELINESS OF FILING
 1. POLICY ON REJECTED RETURNS
 - SOFTWARE ACCEPTANCE, TESTING AND APPROVAL – FIX FORMAT
6. ACKNOWLEDGEMENT SYSTEM
 - ERROR CODES AND CHECK SUM---BEST PRACTICE ITEMS
7. GENERAL INFORMATION
 - TESTING PERIOD
 - SIGNATURE REQUIREMENTS
 - PAYMENT METHODS
 - DATA REQUIREMENTS – ZERO FIELDS BLANK
 - TYPE OF FILINGS ACCEPTED – FED/STATE (LINKED), STATE-ONLY (UNLINKED)
 - DECIMAL PLACES FOR RATIOS
 - HANDLING OF ATTACHMENTS – PDF REQUIREMENTS
 - EDITS AND VERIFICATIONS
 - EXCLUSIONS FROM CORPORATE ELECTRONIC FILING PROGRAM
8. SCHEMAS AND SPECIFICATIONS

SCHEMAS SHOULD BE PRESENTED IN STATE SPECIFIC SPREADSHEET. Elements must also be placed in the order of the state's form, as the form is what is used for presentation for the tax preparation and is the best reference for the software developer.

EXAMPLE INSTANCE DOCUMENTS

 - STATE SPECIFIC
 - PAYMENTS
 - TRANSMISSION, ENVELOPE, MANIFEST
 - ACKNOWLEDGEMENT
 - ENVELOPE
9. APPENDIX
 - COUNTY CODES
 - CITY CODES
 - SCHOOL DISTRICT NUMBERS
 - COMMON ABBREVIATIONS
 - STATE ABBREVIATIONS AND ZIP CODE
 - OTHER STATE SPECIFIC ABBREVIATIONS/INFORMATION
10. FEDERAL DATA REQUIREMENTS

State must specify the requirements for federal data, including whether the complete return or partial, and whether pro forma for the state.

- i. The ERO manual is also similar to the manual you currently provide the ERO community for the 1040 program, except it is focused on the MeF requirements. For example your state may require that the signature document is included in the submission file, the ERO must know that they are required to scan the signature document once signed into to include it in the submission as a PDF attachment.

6. Mapping Schema to Forms

- i. Since the FedState schemas are categorized based and to ensure that the vendors understand your needs, it is recommended that you "map" the state's data elements to the tax form using the XML facility called XPath. This traces each item from a form or schedule through the hierarchy of the schemas, including the "category" to which it belongs.

IV. Develop Backend System

Everything that has been discussed to this point merely gets the Fed/State MeF submissions into your network. Each state is responsible for the processing of the submissions, and returning acknowledgements to the IRS for retrieval by the transmitters. The exact process will vary widely from state to state, and will be different if your state can process XML directly, on a real-time transaction basis, or whether your state must convert the input to flat file records and store them for a batch run on a legacy system. At minimum, however, each state must implement the following.

1. Receiving Submissions
 - i. Each state's gateway must immediately transmit a "receipt" to IRS to signify that the submission was received in its entirety with no protocol errors.
 - ii. The message payload and each submission contained in the payload must be unzipped and the information in the submission header processed.
2. Parse Submissions
 - i. Each XML submission must be checked for validity against the state's schema. Invalid submissions should generally be rejected.
 - ii. The XML data must be translated, if required, into the format for further processing. The state may wish to store the original XML, even if the data must be translated for further processing.
3. Handling Data to Back-end Processing System
 - i. Information in the submission manifest, such as whether the submission is linked or unlinked, must be handled as appropriate to process the submission.
 - ii. The return filing must be processed by whatever system the state uses.
4. Create Acknowledgements
 - i. The state must determine at what point the acknowledgment will be created. For states that can process the submissions on a real-time basis or with short turnaround, the state may want to completely process the submission before creating the acknowledgment. States requiring a longer turnaround may want to create the acknowledgment on the basis of the parsing of the XML, and

handle any errors detected subsequently by the back-end system by more traditional means.

- ii. By consensus agreement of the participating states, a positive acknowledgement indicates that the return has been accepted by the state as having been filed. Whether it also means that the return is considered correct as filed is determined by the individual state, but must be clearly indicated in the state's documents.
- iii. The Acknowledgement is an XML file created according to a schema published by the IRS. Acknowledgements must be transmitted to IRS using the web services discussed previously. Acknowledgments may be sent to IRS in any order, and do not need to correspond exactly to the order or packaging in which the original submissions were received by the state.

V. Develop Viewing System

Electronically filed returns must be able to be displayed to state agency personnel, for purposes such as error resolution and audit. A state may also wish to make a taxpayer's past filed returns available online to the taxpayer. For these reasons, it is necessary to convert the submission to a more readable format.

1. XML Data

This can be done simply as a formatted "data sheet" listing the return items and the corresponding data. However, most states wish to be able to recreate the facsimile of a paper filing, including all of the returns and schedules. There are two main techniques for converting XML data to a form, and both have their merits.

i. XSLT – eXtensible Stylesheet Language Transformation

XSLT is an XML-based language that allows the user to define a transformation of the XML data content into any format. XSLT has all of the power of HTML, so that almost any format can be accommodated. XSLT currently has the advantage that the IRS is using it internally, and is making the XSLT for the federal 1120 and 1065 families of forms and schedules available to the states. Since the state auditors will want to view the federal data as well as the state data, this potentially saves work for the state.

ii. Tagged PDF – Portable Document Format

The other technique for displaying XML data is to create a PDF template from the state's forms and schedules, and to "tag" the template fields with the corresponding XML tags from the return data. Adobe products can then merge the XML return into the PDF template. This method has the advantage of creating a PDF document that can then be used in a variety of ways. A number of states are using this technique, and IRS is considering it.

2. Binary Attachments

Any PDF documents included in the submission package as binary attachments may also need to be displayed. There are many tools available for displaying and printing PDF documents. The challenge for the states is to create a system which links the PDF attachments to the method for viewing the XML data from forms and schedules, so that the user can view the complete return.

VI. Administrative Matters

1. MOU Requirements

The Memorandum of Understanding (MOU) spells out the terms of the participation in a particular Fed/State program. The IRS creates the MOU and each state must execute it before participating in the program. While much of the development effort can proceed before the MOU is executed, IRS will NOT allow a state to interact with its network, even in test mode, without having the MOU in place.

2. ETIN Requirements

For purposes of the Fed/State MeF program, each state is considered a Transmitter, and must be assigned an Electronic Transmitter Identification Number or ETIN. Even if your state already has an ETIN for use in the current 1040 efile system, A NEW ETIN IS REQUIRED FOR MeF. A state may have multiple ETINs for security purposes, especially if a non-revenue agency is retrieving form 990 filings but should not receive other tax return data.

3. System ID

Remember that MeF is a computer application to application (A2A) process. For this reason, it is necessary to register the computer system or systems that will be communicating with the IRS web services. This must be done before testing can proceed. Additionally, it will be required at some point to register a digital certificate from a commercial Certificate Authority for each system. This is recommended for the 2007 filing season (tax year 2006) but will be mandatory for the 2008 filing season.

4. Delegates

It is necessary to register the primary contact for each Fed/State MeF program with the IRS, as well as any delegates. While the primary contact is generally the Efile Coordinator on the business side, it is strongly recommended to have at least one and preferably two delegates from the technical side. The IRS Help Desk will ONLY speak with those individuals who have been registered, so it is vital to have someone registered who is able to work with the Help Desk to debug a technical problem if one should occur in production operations.

5. Application Process

At present, all of the application processes, including application for ETIN for Fed/State purposes and the registration of both the system and all individuals, are paper-based. IRS is working to provide electronic registration for state use, and hopes to have it in place for the 2007 filing season. However, it may not be in place soon enough to cover early testing, so state judgment as to using the existing paper channel is advised.

VII. Contacts

1. Terry Garber – garbert@sctax.org
2. John Dobis – John_Dobis@tax.state.ny.us
3. Scott Mueller – smuelle1@dor.state.wi.us
4. Terry Hunt – Terry_Hunt@kdor.state.ks.us
5. Stephen Bouchard – sbouchard@comp.state.md.us for all ASC X12 questions and X12 membership information
6. Donna Muccilli – dmuccilli@azdor.gov
7. Carol McLaughlin – Carol.M.McLaughlin@irs.gov
8. Joan Barr – joan.barr@irs.gov
9. TIGERS Listserv - tigers@lists.taxadmin.org FTA has set up a listserv for the TIGERS Group. It can be used for posing implementation questions

and issues to the TIGERS group. It is open to anyone, but will be moderated for appropriate use. Just send a message to, with "subscribe" in the subject line of your message.

10. Jonathan Lyon – jonathan.lyon@taxadmin.org for questions regarding participation cost and the FTA web site.

VIII. Helpful Aids

1. MeF Submission Composition Guide
2. Publication 4162 – Modernized eFile Test Package
3. Publication 4163 - Modernized eFile – Information for Authorized IRS eFile Providers
4. Publication 4164 - Modernized eFile – Guide for Software Developers and Transmitters
5. www.statemef.com