



NACTP

MeF Design and Development
Standards and Procedures



National Association of Computerized Tax Processors
www.nactp.org

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NACTP MeF Design and Development Standards and Procedures

Introduction

Scope and Objectives

The intent of this document is to provide a set of standards and best practice recommendations that allow the partnership between Jurisdictions and Industry (NACTP Member Company) to a level of efficiency that allows both to better serve tax paying constituents.

Please use this document in conjunction with or as a supplement to the FTA MeF E-Standards and [IRS Publication 4164](#).

Document Organization

The remainder of this document describes the design and development standards and procedures for the following best practice standards:

Communication and Timelines

Availability of Letters of Intent (LOI), MeF schemas, and ATS testing.

Content Versioning and Packaging

Uniform file versioning and packaging resources, guidelines, numbering schemas

XML Schema Contents Standard

Schema standards for elements, data typing, and attachments.

Acknowledgements and Business Rules Standards

Best practices for creation of acknowledgements (also known as ACK's) and business rules.

Testing Best Practices

A set of best practices for creation of test packages including criteria and testing scenarios.

Linked and Unlinked Filing Standard

Description and recommendations for linked (Fed / State) vs unlinked (State Only) returns.

Independent States Standard

While many Jurisdictions conform to IRS Standards and Best practices, some are unable to due to their own Jurisdictions legislation. This section provides some recommendations for non-conforming Jurisdictions.

1.0 Communication and Timelines

Communication is a vital link in the partnership between Jurisdictions and Industry that allow both to serve taxpayers in an efficient and timely manner. **For a quick review of the timeline, see [Appendix A](#).**

Common communication in the partnership often includes declaration of intent, processing instruction, and timelines for delivery of materials. Materials often include specifications, schemas, business rules, and test scenarios.



Email communication with all Industry members can be easily achieved with a single email address. Please email all general communication to nactp_list@nactp.org and the email will be sent to all member companies. Additionally, changes posted to websites or the State Exchange System (SES) Portal should be followed up with an email listing the changes and where they are posted.

Emails should also be sent as issues arise throughout the year, including, but not limited to:

- Issues with processing returns,
- Issues with timely posting of acknowledgements,
- Issues with pulling ATS test from the IRS, and
- Issues with timely reviewing of ATS tests received from software developers.

1.1 Letters of Intent

Letters of intent (LOI) are often the first step each tax season between a Jurisdiction and Industry. Jurisdictions are encouraged to utilize a template provided by the FTA.

The NACTP recommends that **LOI letters should be available no later than September 1st** each year as each member company has internal review processes for these documents that can often involve multiple groups. To allow for processing, **LOI due dates should allow 60 days for review** with their legal counsel.



- Make available no later than **September 1**
- Submission deadlines should allow **60 days** for legal review and processing

1.2 Schemas and Business Rules

In the MeF lifecycle, schemas and business rules are the hub of taxpayer compliance. Efficient delivery and communication allow for improved processing and reduced errors throughout the process.



- Make preliminary schemas available **no later than September 1**
- Finals should be available **no later than October 31**

The following additional best practices are recommended:

- New forms take additional time to create, test and implement – please release earlier if possible.
- Updates to schemas and business rules should be made available electronically in a designated E-File area of the jurisdiction's website or the SES Portal.
- Final schemas and business rules should incorporate **all** changes. File names for the schemas should follow a naming convention, including version number, so they are easily identifiable. See the section *Content Versioning and Packaging* for more information.
- New schema versions should:
 - Include a summary of changes,

- Provide a diff file of some type and be contained within the schemas themselves, append new entries to a continuous log of changes over multiple years, and Excel spreadsheet change logs are recommended. A good example is the change logs provided by the District of Columbia.

1.3 ATS Testing

ATS Testing is the critical path to accurate filing of MeF returns. To allow Industry partners time to effectively reproduce and replicate testing scenarios, the following timeline is recommended:



- **Start ATS Testing at the same time as the IRS**
 - Make tests available ***no later than October 15, unless there are significant changes which should be made available by October 1***
 - Delays should be communicated to nactp_list@nactp.org

2.0 Content Versioning and Packaging

Commonality and uniformity in packaging and versioning allow Industry partners more time to focus on the key areas of content creation and testing.

2.1 Version Control

Version control is the practice of organizing change in a way that is easily understood and clearly articulates what has changed. Each version or revision is often associated with a number, letter or combination thereof.

Version Control Best Practices



- All schema releases should be incremented by the next number available.
- A schema should not be released using the same number as a previous release whether major or minor.
 - Adoption of minor version changes are not required by software provider and should always be made backwards compatible with previous minor versions.
- An explanation of any changes should be included in the diff files within the schemas of what has changed within each schema release. An email should also be sent to nactp_list@nactp.org that a new schema is available.
- If you are validating federal elements attached to a transmission, keep track of updates to IRS schema versions.
- When releasing subsequent versions of packages or forms already in production, every effort should be made to limit the parsing implications of any schema changes made. Any changes that result in a more restrictive schema than the current production release, should be marked as a major version change. Changes that would not result in increased possibility of parse errors can be marked as minor, non-mandatory schema releases. Every effort should be made to limit major version changes within the filing season, once that return type goes into production. Subsequent schema releases should be posted on the jurisdiction website or State Exchange System (SES) with the date of release and when it will be live in ATS and production, along with an email to nactp_list@nactp.org with an explanation.
- When a major version has been made final for a filing season, notification of this version should be sent to nactp_list@nactp.org as well as posted on the SES or jurisdiction website.
- A minimum of a two week overlap period between major version changes is required to insure proper development and implementation.

Version Resources and Guidelines

The IRS has done substantial work to standardize MeF version control. [IRS Publication 4164 – MeF Guide for Software Developers and Transmitters](#) is the primary document that guides best practices often followed in practice by many Jurisdictions.

The IRS created a set of XML schemas for different types of tax returns, extensions, miscellaneous forms, transmission files and acknowledgement files. Each schema version also has a respective set of business rules that are used during MeF validation.

Schema and Business Rule Updates

Each year, new tax legislation and / or improvements to IRS programs impact the IRS forms and processing procedures. The IRS evaluates these changes to determine if updates to the XML schemas and business rules are necessary. Once the changes have been incorporated, the IRS uses the following timeline to publish the XML schemas and business rule changes.



- **August** – The IRS issues the initial version of the tax year schemas and business rules. This enables software developers to begin development of the new tax year software.
- **September, October, and November** – The IRS issues updated versions of tax year schemas and business rules.

Version Numbers

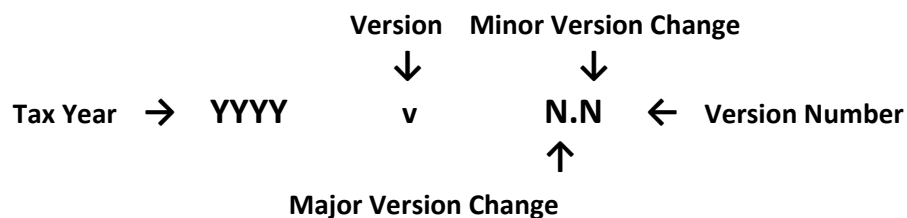
An important factor in receiving valid returns is practical use of schema version numbers. Each unique version has its own schema and business rules related to the specific version. The “returnVersion” *attribute* of the “Return” *element* (the root element) identifies the version of the schema for each return type. For example, the “returnVersion” from the 1120.xsd file shown below identifies the schema version as of 2015v1.0

```
<xsd:element name="Return">
  (Note: information removed for formatting purposes only)
  <xsd:complexType>
    <xsd:sequence>
      (Note: information removed for formatting purposes only)
      <xsd:attribute name="returnVersion" type="StringType" use="required" fixed="2015v1.0">
        <xsd:annotation>
          <xsd:documentation>Return Version</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
```

Version Numbering Scheme

The version number includes:

- The Tax Year for which the schema and business rules document applies (**YYYY**),
- the lower-case version initial (**v**), and
- the two-digit version number (**N.N**)
 - Each Tax Year the two-digit version number should reset to 1.0 after changing the Tax Year.
 - When the version number reaches 10 or more in a given Processing Year, the number will include two-digits to the right and to the left of the decimal as needed (**NN.NN**).
 - The version number of MeF business rules that are invoked for the MeF XML schemas will always have the same version number as the schema version, thereby, providing a mechanism that aligns the various schemas with their applicable rules. Below is an example of the structure used for version numbers for yearly returns.



New Tax Year

The Tax Year part of the version number will change with each subsequent Tax Year and the version number is usually reset to 1.0. This is considered a major version change.

Schema Data Elements – Additions, Changes and Deletions

This includes any schema modifications to a form and / or attachment. Even if the tax return's business rules were not affected by the additions, deletions and changes to the tax return's schemas, the business rule's version number will be changed to maintain the alignment between the schemas and the applicable business rules.

Form Family

If the 1120 version number changes, then the 1120-F and 1120S version number will also change.

Major Schema Changes

When IRS issues revised schemas for a return type and changes the increment for the major number, all returns must be composed using the new version number. If returns are composed using previously published schema versions, they will not validate against the active validating system schema version when the return is processed.

For example, if the current version is 2019v1.1 and the IRS decides it can no longer accept returns composed using schema version 2019v1.1 or 2019v1.0, it will assign the new number 2019v2.0. The active validating schema version is 2019v2.0. Returns submitted with 2019v1.1 or 2019v1.0 will be rejected for using an unsupported schema version.



A major version change should not go live for at least two weeks once published, giving all software developers time to implement the new schema release. This is especially true for a major release during the filing season. If possible, allow the old and new schema versions to overlap in production by at least a week to allow for time for transition.

Major schema changes are **NOT** guaranteed backward compatible. That is, an instance document generated from a previous release may not be valid against one or more schemas in the new release.

Minor Schema Changes

When IRS issues revised schemas for a return type and changes the increment for the minor number, MeF will continue to accept returns composed using previous schema versions. When the minor number is changed, the IRS allows software developers to decide for themselves whether they need to use the new version and the decision is based on what is included in their tax preparation software and what changes were made to the schemas.

For example, if the change affects a form or field you do not support, then you may elect not to use the newest version. Returns may be composed using previous published schema versions, but the IRS will only validate against the “active validating schema version” when the return is processed.

If the current version is 2019v1.0 and the schema change is minor, the IRS will assign the new number 2019v1.1. The active validating schema version is 2019v1.1. MeF will continue to accept returns composed using version 2019v1.0. However, all returns (whether composed with version 2015v1.0 or 2019v1.1) will be validated with the new version, 2019v1.1.

Minor schema changes are backward compatible. That is, any instance document generated from the previous release will still validate against the new release. In general, a change in release number only represents the addition of optional new components.

2.2 Packaging

Jurisdictions should adhere to Schema Packaging guidelines provided on the e-Standards website, www.statemef.com – the term “packaging” is used here to refer to the structure of folders and subfolders used to contain the various schemas when posted by the Jurisdiction for industry use.



It is desirable to maintain as much uniformity as possible in schema packaging, so that a software developer can use a single approach to access the schemas in the packages that the software developer downloads from as many Jurisdictions as possible. At the same time, there are acknowledged differences between a Jurisdiction that is only support one MeF program, a jurisdiction that is supporting two programs separately, and a jurisdiction that is implementing an integrated program with both individual and business filings.

3.0 Schema Contents Standard

3.1 XML Schemas



Binary attachments should be used only in circumstances where a scanned copy of physical document is absolutely required. Every effort should be made to replicate the data as XML entries, rather than PDF attachments. Tax forms should be built into the XML schema.

1. Schemas should utilize the standardized schema components developed by the E-Standards group. These components include elements for ACHDebit, BinaryAttachments, FinancialTransactions, ReturnHeader, and StateDirectDeposits. Additional information on each of these elements, and the remainder of the E-Standards standardized datatypes and elements, can be found at <http://www.statemef.com>.
2. Element names should strictly contain non-whitespace, alphanumeric characters, and must start with a non-numeric character. In determining the exact name, the schema developer should choose a semantically appropriate description of the contents of the element; and delineate separate words in the element name by using upper-case characters for the start of each word (“*Camel-Case*”). As examples, “*TotalGrossReceipts*” and “*CharitableContributions*” are good element names. Element names like “*incometaxwithheld*” or “*Line16a*” are discouraged. **The length of each element name should not exceed 30 characters.**
3. In determining the data type for elements, the schema designer should take advantage of the numerous simple data types provided by the IRS and the E-Standards group as compatible with your backend system. These include data

types for most simple line item entries, including values for whole-dollar amounts, decimal-dollar amounts, ratios and percentages. The state can find these data type definitions in *eFileTypes.xsd* and *StateEFileTypes.xsd*, which are included as part of the E-Standards schema component deliverables.

4. Checkboxes on the paper form should be represented in the schema as elements of type *CheckboxType*, which is included in *eFileTypes.xsd* described above. Similarly, *Yes/No* boxes should be defined as *BooleanType* elements, also described in the same schema file.
5. XML schema enumerations should only be used when there is a minimum of possible values and should contain only numeric and *Mixed-Case* alphabetic characters.
6. Required elements should be kept to a minimum.
7. Where possible, the ordering of elements in the schema should match the sequence of line-items on the paper form.
8. The applicable form line numbers and description should be included in the *xsd:documentation* in the schemas.
9. XML Acknowledgements should use the Acknowledgement schema component included in *eFileAttachments.xsd*, which is part of all IRS schema deliverables.
10. The datatype with which a percentage is defined in the XML schema should be consistent with the format in which the percentage is displayed on the form.

Developer Guides / Handbooks

Include in the state developer handbook whether the complete federal return XML is required to be attached to the State return transmission. This includes whether the PDFs that are included with the federal submission are required as well.

NACTP recommends that the federal PDFs not be included in order to minimize the size of the state return transmission file.

As part of the schema and E-file requirements deliverable, the Jurisdiction should list which values are expected in the State Manifest that accompanies each submission. The values of concern are *GovernmentCode*, *SubmissionType*, and *SubmissionCategory*.

4.0 Acknowledgement / Business Rule Standard

4.1 Acknowledgement Records

State returns should be processed timely and acknowledgements posted within 1 business day of state receipt of the returns from the IRS. If issues arise that delay posting of acknowledgements, an email should be sent to nactp_list@nactp.org with further information.



- Submission ID is always needed.
- The “EFT” node should use the same codes that the IRS uses.

4.2 Business Rules

Jurisdictions should adopt the equivalent of the IRS business rules standard for error conditions and message content following the IRS formatting. The standard can be found in [IRS Publication 4164](#).

- Business rules should be presented in an excel format such as .CSV or .XLS.
- Specifications should provide all necessary edits and validation to complete a valid return. Edits and rejections should reference specific elements that are used by the state.
- When business rules are changed, incrementing the rule number is recommended.

Business rule definitions should be as specific as possible and the explanation for the business rules should be concise and understandable to avoid ambiguity. Below are some examples of good and bad business rules.

Good examples:

- If Schedule XX (Form ???), Line ?? has a choice of ‘Yes’ indicated, then Line ?? must have a value.
- The following Credits (Form ???, Line ??) require the corresponding credit form to be attached: Credit Name: “CREDIT1”/USE Form ???; “CREDIT2”/USE Form ???; “CREDIT3”/USE Form ???.

Bad examples:

- One or more date fields do not conform to the following specifications:
 - All nonblank date fields with a length of eight characters must contain eight numeric characters in ‘CCYYMMDD’ format.
 - Where various dates are allowed, or the date is not known, the date field should contain ‘00000000’.
 - When transmitted in variable format, all nonblank date fields with a length of six characters must contain at least four numeric characters in ‘CCYYMM’ format. [Bad because this rule is enforcing a data type which should be covered as a schema data type. If the schema defined the relevant elements as “dateType” instead of “String8”, one wouldn’t need this business rule to begin with.]
- XML attachments and submission attachments do not match. [Bad because it doesn’t define what is being compared.]

- Field constraint error. [Bad because it should be strictly data-typed to prevent this type of error, or a specific business rule should document how the data can pass the field requirements.]
 - Generic messages that lack details should be avoided. **Avoid “Line x has been input incorrectly”** – Instead use detailed messages such as “Line x is not one of the specified values listed in the specification.” or “Line X should be formatted YYYY/MM/DD.”

Business Rule Best Practices

- Business rule numbers should be unique or possess a unique identifier across all entity types within a jurisdiction making it easier to identify which tax type is being referenced.
- Business rules should be separated by Form and should reference the data elements for that form.
- Including X paths with each rule is recommended.
- Acknowledgements with rejects should reflect the X path.
- Jurisdictions should reject returns if the return does not contain all necessary information or incorrect information (such as incomplete or incorrect direct deposit information.)
- Jurisdictions should eliminate “C”onditional and “N”otification codes. Instead rejecting these returns for correction.
- Business rules should focus on one condition per rule rather than more than one.
- If the state has an issue/error with any information in the return, it should be captured in the business rule acknowledgement file. The business rule acknowledgement file should contain the following error information.
 - **Rule Number** – Each MeF business rule has a number that uniquely identifies the business rule within the MeF system. The rule number consists of a letter identifying the type of return document the rule applies (form, return, transmission, schema, schedule, payment), the form number that owns the rule, followed by the number of the rule within the form.
 - **Error Message** – This element provides the description of the rule.
 - **Error Category** – All MeF business rules are divided into 11 error categories. The following eight categories validate the XML data:
 - Multiple Document
 - Missing Document
 - Data Mismatch
 - Duplicate Condition
 - Math Error
 - Incorrect Data
 - Missing Data
 - Database Validation Error
 - The following three categories are for all return types:
 - XML Error
 - System Error
 - Unsupported
 - **Severity** – When a business rule is violated, one of the following severity levels should be issued:
 - Reject
 - Reject and Stop
 - Alert
 - **Data Value** – Data value causing the violation – when appropriate.

In an effort to reduce the total number of business rules a jurisdiction must create; formatting should be enforced with schema validation instead of business rules when applicable. The NACTP definition of this is that a State should only include business rules that are necessary to ensure that critical calculations are correct on the return. Below are examples of when business rules are used when the schema validations should have been able to take care of the issues. Jurisdictions should not include a business rule for every line on a form or schedule.

Form Name	Line #	Error Code	Severity	Category	Error Message	Schema should change to address
Form XX	Step 2 Line 13	4800-5	Reject	Incorrect Data	Form XX Step 3, line 13 cannot be negative	Cannot be negative-define in type
Form XX	Step 2 Line 23	5900-1	Reject	Missing Data	Form XX Step 3, line 23 is required	Not required in schema

Business rules should be provided to software developers with lead times when the states must introduce new rules during the season, at a minimum of one week. Changes should be introduced into state test environments so software developers can test against them before going into live production.

5.0 Testing Best Practices

5.1 Timeline



- ATS Tests should be available no later than **October 15th**. If there are significant changes to the tests, those should be made available by **October 1st**.
- ATS testing should start on the same day as the IRS testing starts. Any delays in the start date should be communicated via nactp_list@nactp.org with the anticipated start date.
- Jurisdictions are encouraged to allow their test system to be available for testing year-round.

5.2 Packages

Testing deadlines, if required, should not be “hard dates”. Deadlines create challenges for companies with other jurisdictions competing deadlines, pandemic challenges, and other unavoidable factors. If dates are required, the following should be included in the specifications or test package:

- Testing start date
- Date first transmission must be sent by, if applicable
- Date when testing must be completed by, if applicable
- Tests should be the same as the 2-D tests for the state

Test packages should include the state contact person’s name, address, telephone number, and email address.

Jurisdictions that support direct deposit and electronic funds withdrawal (EFW) should include at least one test scenario with EFW and one with direct deposit.

Criteria Based Testing

Definition: Criteria based test scenarios are defined as a software company creating their own test return data with the jurisdiction specifying what each test return should include as follows:

- Number of returns,
- List of forms and schedules to be included,
- Filing Status,
- Test SSNs to be used on each test return (see Appendix B), and
- For Forms with lines that are calculated on that form and that do not pull over from another form, please list the lines that you would like to see on each test.

Federal data, if included, should contain correct tax logic.

The number of test returns should be limited to twelve (12) returns or less AND the criteria for the tests should be available in one document.

Returns in the test package should only include high volume forms.

Scenario Based Testing

Definition – Scenario test cases are test returns that a Jurisdiction prepares and expects all software companies to recreate exactly as they are presented by the Jurisdiction. The Jurisdiction provides all information that should be included on the federal and state return and all forms and schedules that are required to be included for each test case.



Consistency should be maintained in the tests from year to year. Federal data should be realistic and calculated accurately.

The number of test returns should be limited to 12 returns or less **AND should be available in one package.**

Test returns should be prepared by a tax specialist to avoid issues regarding the application of tax law. Returns should focus on formatting the tax return and NOT tax law compliance or calculations. Test returns should include:

- A cover page highlighting the test scenario
- A completed return with all forms and schedules
- Only high-volume forms
- A copy of the completed federal return

5.3 Return Examiners

Return examiners should be knowledgeable in electronic filing, with the test returns, and with tax preparation. Examiners should be empowered to make decisions on acceptable test results and should have the software limitations list from each software developer readily available during the compare process.



Examiners or a qualified alternate should be available at the hours posted and they must be available during critical testing times, including the entire months of November and December.

Delays
will be
contact



during ATS should be reported to nactp_list@nactp.org. Delay notices should include when they absent, closed for holidays or if they are having hardware/software problems. If an alternate person is assigned, this information should also be provided.

5.4 Results



The testing process should be automated by the state. We encourage Jurisdictions to consult with each other to find a way to automate this process.

- Results should be available within 24 hours of retrieval of test returns for jurisdictions with automated testing and within 72 hours for all other jurisdictions.
- Test return retrieval from the IRS should be done at least twice a day so that feedback on testing can be completed in a timely manner.
- ALL errors for each test transmission should be included in the results.
- Results must be provided in a clear, legible and unambiguous written format to help clearly identify the problem, which includes the following:
 - Form/Schedule name
 - Data Element
 - Answer received
 - Answer expected
- Transmission of acknowledgements for all test transmissions should be included as part of the testing procedures. The acknowledgements should contain all returns transmitted and whether they were accepted or rejected with the ACK error record included for all returns that were rejected.
- Tests for customers (EROs) of the software companies should be limited to a communications test.

5.5 Approvals



A copy of the software should NOT be mandated in order to receive approval. A copy of the software gives no added value as detailed below:

- Software submitted doesn't represent the submissions being tested.
- Software requires proprietary information that isn't available, i.e. E-file viewers, office id, preparer login, etc.
- Distribution of software outside of a controlled environment as maintained within the software company is compromised when sent to the State.
- Software dynamically changes after testing based on business needs and tax law changes.
- Jurisdictions should not link to the approval condition of requiring all forms or certain forms.
- **Approval for electronic filing should NOT be conditional on receiving print forms approval. Most software can allow E-File with an option to later print. This allows software teams to prioritize complex scheduling across multiple jurisdictions for both E-File and print based on customer need.**

5.6 Miscellaneous Testing Information

ATS tests for online should be limited to one, unless the developer is testing online ATS first, then only one test should be necessary for the professional product.

Detailed online ATS requirements should be included in the EF Handbook or test return package.

If a software company offers multiple products (which use the same calculation engine) they should be required to test only one of their products.

6.0 Linked and Unlinked Filing Standard

6.1 Linked Returns (Fed / State Returns)

Definition - A State submission can be linked to the IRS submission by including the Submission ID element of the federal return in the IRS *SubmissionID* in the State manifest.

If the State submission is linked to an IRS submission (also referred to as a Fed/State return), the IRS will check to see if there is an accepted IRS submission under that Submission ID.

If there is not an accepted federal return for that tax type, the IRS will deny the State submission and an acknowledgement will be sent to the transmitter. The state has no knowledge that the state return was denied (rejected) by the IRS. Note: If you are going to link a State submission to an IRS submission, send in the IRS submission first and, after it has been accepted, send in the State submission.

If there is an accepted return under that Submission ID, then MeF will do minimal validation on the State submission that included verifying that the State indicated in the State manifest is a participating state in the applicable 990, 1040, 1065 or 1120 Fed/State Program. MeF will then pass along to the State what the ERO sent in the State submission.

6.2 Unlinked State Returns (State Standalone Returns)

If the ERO does not link the State return to a previously accepted federal return (also referred to as State Standalone return), then MeF will perform minimal validation. As stated above that will include verifying that the State allows State Standalone returns. Then the IRS will pass along to the State, the entire State submission that was sent in by the ERO.

Note: The state return is made up of a state and a federal portion. The ERO provides both components based on what is required by the state. The IRS passes to the state just the information that has been provided by the ERO.

6.3 Additional Guidance

- States should be prepared to receive duplicate filings, and issue either acceptances or rejections, as appropriate, for all files received.
- States should offer unlinked filing without limitations.
- All states should allow unlinked returns.
- All return types should be allowed to be filed unlinked. This includes nonresident/part-year resident returns.
- If linked and unlinked are supported by the developer and the state requires submission of a linked return, states should require one ATS test of each and the remainder to be transmitted however the developer chooses.

7.0 Independent States Standard

- The schema structure and naming convention should be consistent with IRS schemas. The state return should be first, followed by the federal return, if requested.
- The federal return should follow the federal format, with no differences in special characters.
- To further automate the electronic filing acknowledgement process, the state system should support automation by using a scripting language and the login procedure should be detailed.
- State acknowledgment system should support the ability to access acknowledgements for the entire season.
- State acknowledgment systems should be available 24 hours a day to support reposting lost acknowledgement files and should automate the reposting of acknowledgements. Acknowledgements should be reposted within 24 hours.
- Communication protocols should allow for easy automation and should accommodate security.
- States should follow federal and allow for batch transmitting.

8.0 General Standards

- If there is a signature document, it should not be required as PDF. The ERO should be allowed to retain.
- Since the IRS now offers two PIN programs for individual returns, states should adopt the IRS PINs as their individual return signature alternative. If not allowed by state law, then a state signature alternative should be put into place. Signature alternative instructions should be explained in detail in the state's EF Handbook.
- Taxpayers should be able to pay their balance due electronically using either electronic funds withdrawal or credit card.
- States should allow warehousing of electronic payments for estimated tax/balance due purposes.
- States should have explicit business rules and requirements for all refund payment options:
 - Debit card
 - Direct deposit
 - Refund check
 - Defined State Account i.e. 529 Account
- States should have explicit business rules and requirements for all payment options:

- Credit card
 - Check
 - Direct debit
 - Website payment portal
- States should include a facsimile (template/worksheet) of any e-file only form that is included in their business or individual programs. This is necessary for software companies to facilitate the adding of the form to their program and to allow a copy of the form to be included for the taxpayer's and preparer's records.

Appendix A

Timeline



August

- IRS issues initial tax year schemas and business rules

September

- Letters of Intent should be available no later than September 1
- Preliminary schemas should be available no later than September 1
- IRS issues updated tax year schemas and business rules

October

- ATS Tests should be available no later than October 15, unless there are significant changes and those should be posted no later than October 1
- Final schemas should be available no later than October 31
- IRS issues updated tax year schemas and business rules

November

- IRS issues updated tax year schemas and business rules
- Return examiners should be available at the hours posted and they must be available during critical testing times

December

- Return examiners should be available at the hours posted and they must be available during critical testing times

Appendix B



Social Security Numbers to Use for Testing

Arkansas

400-00-5500 to 400-00-5599

Alabama

400-00-7400 to 400-00-7499

Arizona

400-00-7500 to 400-00-7599

Colorado

400-00-5600 to 400-00-5699

Connecticut

400-00-5700 to 400-00-5799

Delaware

400-00-5800 to 400-00-5899

District of Columbia

400-00-7300 to 400-00-7399

Georgia

400-00-6600 to 400-00-6699

Hawaii

400-00-7900 to 400-00-7999

Idaho

400-00-5900 to 400-00-5999

Illinois

400-00-3500 to 400-00-3599

Indiana

400-00-4000 to 400-00-4099

Iowa

400-00-6000 to 400-00-6099

Kansas

400-00-4100 to 400-00-4199

Kentucky

400-00-4200 to 400-00-4299

Louisiana

400-00-4300 to 400-00-4399

Maryland

400-00-7200 to 400-00-7299

Maine

400-00-6500 to 400-00-6599

Michigan

400-00-4500 to 400-00-4599

Mississippi

400-00-4600 to 400-00-4699

Missouri

400-00-6100 to 400-00-6199

Montana

400-00-6800 to 400-00-6899

Nebraska

400-00-6200 to 400-00-6299

New Jersey

400-00-6300 to 400-00-6399

New Mexico

700-00-0000 to 700-00-2000

New York

400-00-4800 to 400-00-4899

North Carolina

400-00-4900 to 400-00-4999

North Dakota

400-00-7700 to 400-00-7799

Ohio

400-00-7600 to 400-00-7699

Oklahoma

400-00-5000 to 400-00-5099

Oregon

400-00-6400 to 400-00-6499

Pennsylvania

400-00-7100 to 400-00-7199

Rhode Island

400-00-6900 to 400-00-6999

South Carolina

400-00-5100 to 400-00-5199

Utah

400-00-5200 to 400-00-5299

Vermont

400-00-8000 to 400-00-8099

Virginia

400-00-7000 to 400-00-7099

West Virginia

400-00-5300 to 400-00-5399

Wisconsin

400-00-5400 to 400-00-5499