## **Interactive Data Public Test Suite**

Version 16-110225

#### 1 Goals

The purpose of the public test suite is to assist developers of software that must validate Interactive Data prior to its submission to EDGAR. The test suite consists of many small Interactive Data instances, schemas and linkbases that are categorized as to whether they violate a validation check, and if so, what validation check they violate and whether that would resulting a warning, or in an error that would cause the Interactive Data to be rejected.

Filers that attach Interactive Data to EDGAR submissions as EX-101.\* attachments are responsible for compliance with all validations in Chapter 6 of Volume II of the EDGAR Filer Manual ("the Manual"). Automated validation by preparation software can make it more efficient for filers to verify compliance before sending their filings to EDGAR itself. Nothing in this test suite is intended to create new requirements or change existing requirements for EDGAR submissions; filers should consult the Commission rules and the Manual for submission requirements.

The organization of the test suite follows that of Chapter 6 of the Manual. Chapter 6 consists of subsections that each detail one or more Interactive Data validations, and these individual subsections are grouped into sections according to type of attachment (instance, schema, or linkbase) and whether the validations can be completely automated (called "syntax" sections) or whether they deal with the relationships that may require some manual review or accounting judgment (called "semantic" sections).

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## 2 Notation

In this document, path names use forward slashes, although the tests work on any operating system.

#### 3 Versions

The major version number "16" refers to a specific version of Manual (draft or otherwise) and the minor version number "110225" is the date of the minor version, formatted as YYMMDD.

## 4 Installation

The suite is distributed as a zip format archive. Extract the entire contents to any convenient location, preserving folder paths. It contains a top level folder that corresponds to the version of the Manual.

All files are encoded as 8-Bit Universal Transmission Format (UTF-8) or US ASCII. The suffix ".xsd" indicates an XML Schema file, ".xsl" indicates an XML Style Sheet (XSL) and suffix ".xml" indicates any other XML file type.

There are no executables in the zip format archive except for XSL 1.0 files in subfolders "lib" and "conf".

The file index.htm is a file created to facilitate browsing the test files; it highlights testcase files containing remarks that may help developers.

# 5 Library

The folder "lib" contains files important for software developers.

## 5.1 edgartaxonomies.xml

This file accompanies the conformance test suite because it constitutes the normative definition of "standard taxonomy" and therefore impacts many of test case variations. The version of the file in the test suite represents a draft of a forthcoming version of edgartaxonomies.xml to be posted on the SEC web site.

The file forbidden.xml is a non-normative file that contains some of the URLs most frequently referenced in error by developers. It is only a set of samples; any URL not in edgartaxonomies.xml is, in fact "forbidden".

Accompanying schemas erxl.xsd and forbidden.xsd allow validation of these files.

## 5.2 edbody.dtd

This XML Document Type Definition (DTD) and three XML Entity Declaration (ENT) files are used to validate the un-escaped content of Text Blocks and XBRL Footnotes.

A Text Block is an XML element whose type is "textBlockItemType" in a namespace starting with "http://xbrl.us/us-gaap/".

An XBRL Footnote is an XML element named "footnote" in namespace "http://www.xbrl.org/2003/linkbase".

#### 5.3 errors.xml

File errors.xml is a list of all error codes. File xbrlerrors.htm is the equivalent file in HTML for publication on the SEC web site. File errors2errors.xsl transforms errors.xml into xbrlerrors.htm

## 5.4 formtype-mapping.xml

EDGAR checks for consistency between the EDGAR submission type and the value of dei: DocumentType appearing in an attached instance. This file contains, for each EDGAR submission type, the expected value of dei: DocumentType.

## 5.5 Stylesheets

Files test.xsd, testcases.xsl and test.xsl are used to validate and view \*-testcase.xml files in a browser, respectively.

## 6 Test Cases

A testcase file is an XML file used by software developers. The file names sets of files to be processed together and the expected results of that processing. The testcase XML file is typically transformed to produce a shell command script; the resulting command script invokes a validator on one file in each variation and stores the result of that validation. When a validator produces results identical to those expected, it is said to be "conforming".

All testcases and their test files are in the "conf" folder. The testcases are grouped by section with a simple sort code scheme that corresponds to the number and title of the section, for example:

- Section 6.4 = Folder 604-filing-semantics
- Section 6.5 = Folder 605-instance-syntax

Within each section folder are subsection folders, following a similar coding scheme, for example:

- Section 6.5.1 = 605-instance-syntax/605-01-identifier-scheme
- Section 6.19.1 =
   619-reference-semantics/619-01/619-01-no-standard-references

Within each subsection is one testcase file whose name is prefixed the same as the folder. For example:

 605-instance-syntax/605-01-identifier-scheme/603-09-identifier-scheme-test case.xml

The numbering of Manual sections is stable. The number and meaning of subsections will not change except to add additional subsections, or to mark subsections as "deleted" "no longer in force" or equivalent language.

The syntax of the testcase is a modification of the syntax typically used by the XBRL International consortium (<a href="http://xbrl.org">http://xbrl.org</a>) and so it retains some features that are not meaningful for this test suite. The schema at lib/test.xsd is for validating the syntax of each testcase.

The elements are all in the <a href="http://edgar/2009/conformance">http://edgar/2009/conformance</a> namespace.

Each testcase file is XML that meant to be used for programming test harnesses and similar applications. Each testcase file also has an XML Processing Instruction referring to an XSL 1.0 style sheet lib/test.xsl for viewing it as HTML in a browser.

## 6.1 Required elements <creator>, <name> and <email>

These elements name the party responsible for the testcase, which for this test suite is always the Office of Interactive Disclosure (OID) at the SEC.

## 6.2 Required element < number>

By convention this is the sort code pattern "6[0-9]{2}-[0-9]{2}", the sort code for a section as described above. "605-22" means section 6.5.22.

## 6.3 Required element <name>

The schema restricts this to contain a specific string that provides a human-readable reference back to the Manual:

• EDGAR Filer Manual v{version} 6.{section}.{subsection} page 6-{page}

# 6.4 Required element <description>

This element has the plain text of the corresponding section of the Manual (usually the entire heading and body, but not tables), but only for reference; the Manual is normative.

This element also sometimes contains parenthetical additions such as (REMARK ...) that indicates some implementation detail or related commentary, or a (TODO ...) that indicates a known coverage gap or other deficiency in a draft version.

# 6.5 Optional repeating element <reference>

There can be any number of reference elements but each must have attribute @specification containing any useful string.

## 7 The <variation> element

Each test case contains one or more variations. Each variation exposes just one aspect of the validation to be performed: either a "no good" variation that is meant

to trigger exactly one validation error, or sometimes a "good" variation that is meant to illustrate either the base case or an edge case.

## 7.1 Required attribute @id of <variation>

By convention, this is in the format  $"[0-9]{3}((gd)|(ng))"$  in which "gd" always indicates a good (valid) variation and "ng" indicates a no good (invalid or triggering a warning) variation.

Concatenating the character "e", the testcase number, and the portion of the @id occurring after the underscore, results in the base name of the files unique to that variation. For example, if the test number is 604-05 and there is a variation named "\_003gd" then there will be data files with base name e60405003gd.

The three digit number [0-9]{3} is often a zero based sequence, but may have gaps or some other iteration pattern.

The numbering and meaning of individual variations within a testcase may change from release to release, although this is expected to be rare.

## 7.2 Required element <name> of <variation>

This contains free form plain text although by convention it begins with the section number and ends with either the token GOOD or NOGOOD. For example, these are the names of variations in 605-01-entity-identifier-scheme:

- 6.5.1, Scheme in instance is <a href="http://www.sec.gov/CIK">http://www.sec.gov/CIK</a>, GOOD
- 6.5.1, Scheme in instance is <a href="http://www.sec.gov">http://www.sec.gov</a>, NOGOOD

# 7.3 Required element <description> of <variation>

This contains free form plain text; again by convention it often duplicates the name element contents without the numeric prefix, and is always brief.

# 7.4 Optional repeating element <reference> of <variation>

There can be any number of reference elements but each must have attribute @specification containing any useful string.

# 7.5 Required element <data> of <variation>

The data element groups the files in the variation. This has exactly one instance followed by zero or more linkbases, followed by one or more schemas. Although in principle the set of local files in the Discoverable Taxonomy Set (DTS) of the instance is discoverable from the instance, the testcase files also serve as a kind of manifest to ensure a set of files is complete without extraneous content.

The DTS is described in detail along with other XBRL constructs in the XBRL 2.1 Specification at:

 $\underline{http://xbrl.org/Specification/XBRL-RECOMMENDATION-2003-12-31+Corrected-Errata-2008-07-02.htm}$ 

## 7.5.1 Optional repeating element cparameter> of <data>

Sometimes, validation requires an external input. For example, EDGAR uses the Central Index Key (CIK) number to identify filers.

For example, variations in testcase 605-02-entity-identifier-match-cik requires that the CIK of the submission be provided as a parameter to the validation of an instance.

#### 7.5.2 Required attribute @name of <parameter>

A QName that is the name of the parameter. In this test suite the QName content must have the empty namespace.

## 7.5.3 Required attribute @datatype of <parameter>

A QName that is the datatype of the parameter, usually xs:string.

## 7.5.4 Required attribute @value <parameter>

A string that is cast to the datatype specified and passed to the validator.

#### 7.5.5 Parameter names, types and values currently in use

Only "submissionType", "cikList", and "cikNameList" are currently used. If <parameter> is not specified, a validator being tested can use the following default values, or skip validation rules that require unspecified parameters:

@name	@datatype	default @value appearing in test instances
submissionType	xs:string	8-K
cikList	xs: string	9876543210
cikNameList	xs:string	Variation basename, e.g. "e60512000gd".

Testcase e60524 uses parallel lists of CIK and entity names. The delimiter for cikList is the comma character "," and the delimiter for cikNameList is the seven character sequence "|Edgar|". Thus the following elements declare that the first CIK has company name "ABC & DEF LLC" and the second has company name "THI!S\\$TR@NGE N#ME=:;."

## 7.6 Required element <instance>

The local file name of the instance must be an EDGAR compliant file name (less than 24 characters, etc). By convention the name is formatted as:

```
e6{section}{section}[0-9]{3}((gd)|(ng))-200(8|9)1231.xml
```

For example e60501001ng refers to a no good instance violating Manual section 6.5.1.

By convention, instances that have the date part 20081231 use the 1.0 DEI taxonomy and those with date part 20091231 use the 2009 DEI taxonomy.

The attribute @readMeFirst must be "true". This attribute indicates to a test script that it is the instance file that is first opened by the validator being tested.

## 7.7 Optional repeating element <linkbase>

Every variation has linkbases named using the same naming convention as the instance.

Many testcase variations have a set of common linkbases named edgar-20081231\_\*.\* or edgar-20091231\_\*.\*. Identically named "edgar-" linkbase files differ from folder to folder.

## 7.8 Required repeating element <schema>

Every variation has at least one schema with its own set of linkbases named using the same naming convention as the instance.

Usually a variation has exactly one schema. Rarely, in section 608-schema-syntax or elsewhere, the nature of the testcase may necessitate more than one schema.

Many testcase variations have a set of common schemas named edgar-20081231.xsd, edgar-20091231.xsd or edgar-20111231.xsd. Identically named "edgar-" files may differ from folder to folder.

## 7.9 Required element <result>

For a "no good" variation the result element contains at least one <assert> element. The element is otherwise empty.

## 7.10 Optional repeating element <assert>

The assert element contains information used to group information about the error or warning message expected upon validation.

## 8 The <assert> element

The assert element declares the severity, associated EFM section and mnemonic error code to be generated. The element allows any other attributes to appear that the author of the variation may deem useful<sup>1</sup>.

# 8.1 Required attribute @severity of <assert>

There are two values, the most common one being "err" and the other "wrn" meaning a warning. In the EDGAR system, a warning does not cause the XBRL files to be stripped from a submission; an error does.

## 8.2 Required attribute @num of <assert>

The syntax is the same as the <number> element content without the dash. It is not identical because in rare cases the @num may differ from the testcase file where it appears, as for example when one error could not occur without triggering another.

# 8.3 Required attribute @name of <assert>

A mnemonic code with dash-separated proper case tokens such as "No-Presentation-Order". Tokens are strictly proper case, for example, "No-Xml-Base-Allowed" even for the error concerning attribute "xml:base", or "Illegal-Html" for errors concerning HTML.

<sup>&</sup>lt;sup>1</sup> The syntax of <assert> is syntactically convertible to that used by the XBRL International Formula 1.0 Specification (<a href="http://www.xbrl.org/SpecRecommendations/">http://www.xbrl.org/SpecRecommendations/</a>).

## 8.4 Optional attribute @frd of <assert>

A two-letter code for a related group of assertions; this appears in error codes as reported by EDGAR, such as "60515-cp-No-Xml-Base-Allowed".

## 8.5 Optional attribute @countSatisfied of <assert>

Defaulting to 0, this indicates the number of satisfied assertions in the variation.

## 8.6 Optional attribute @countNotSatisfied of <assert>

Defaulting to 1, this indicates the number of assertion violations in the variation.

## 9 Notes on the folder structure and file details

There are a few exceptions to the mapping from Manual subsections to the test suite.

At this time, there is incomplete coverage of these syntax sections of the Manual:

- 603-filing-syntax (some subsections require information such as the attachment type (EX-100, EX-101) that is not available from the content of the XBRL files themselves).
- There are no separate tests for 605-06, 605-18, 605-26, 607-02, 607-05, 607-06, 609-02, 609-08, 610-07, or 612-04 because these sections do not have their own unique error codes.

Two files in folder 603-04-no-html-character-entities are not valid XML; this is intentional (e60304001ng, e60304002ng-20081231\_lab.xml).

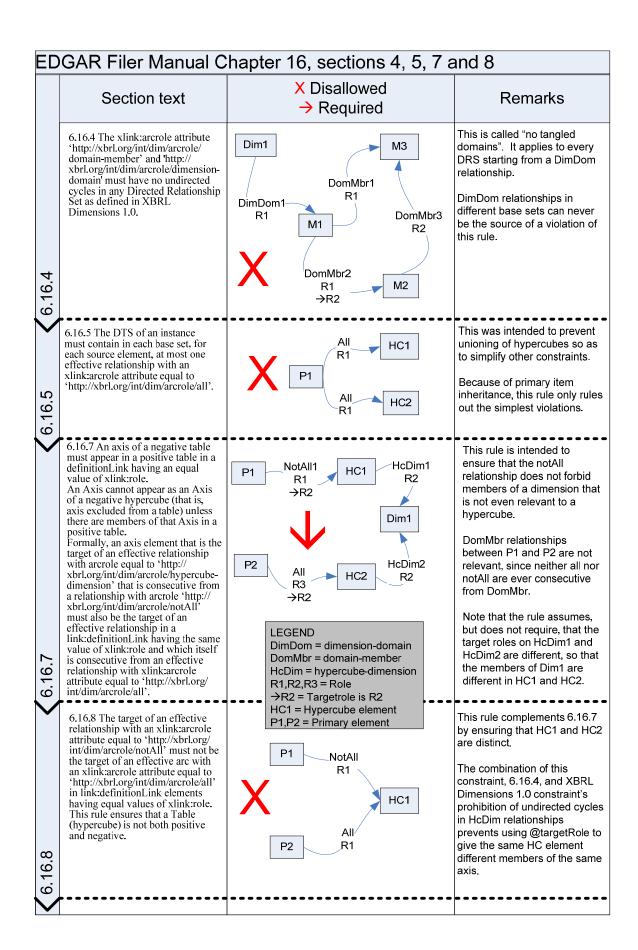
There is no coverage of these semantic sections because they do not at this time result in EDGAR warning or error messages:

- 606-instance-semantics
- 608-schema-semantics
- 611-label-semantics
- 613-presentation-semantics
- 615-calculation-semantics
- 617-definition-semantics
- 619-reference-semantics

There are no such subsections 6.22.1, 6.22.2, 6.22.3 or 6.22.4 in the Manual; these correspond, respectively, to the three issues covered by section 6.22 and the current contents of the <a href="http://www.sec.gov/info/edgar/edgartaxonomies.xml">http://www.sec.gov/info/edgar/edgartaxonomies.xml</a> file.

# 10 Notes on 6.16 Definition Syntax Subsections

Subsections 6.16.4, 6.16.6, 6.16.7, and 6.16.8 can be difficult to interpret without further technical explanation. Their test cases are illustrated and explained in the figure below.



#### 11 Contacts

Developers with questions, bug reports, or suggestions for additional variations to improve coverage should send email to <a href="mailto:Ask-OID@sec.gov">Ask-OID@sec.gov</a> as indicated in the owner element. The SEC cannot guarantee a response to every communication. Before sending a bug report, check for the latest version and check the Interactive Data FAQ (<a href="http://www.sec.gov/spotlight/xbrl/staff-interps.shtml">http://www.sec.gov/spotlight/xbrl/staff-interps.shtml</a>).

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# 13 Change Log

Version	Changes
13-090917	-
13-091021	Change of namespace to <a href="http://edgar/2009/conformance">http://edgar/2009/conformance</a> .  Addition of index.htm, testcases.xml, and errors.xml.
	Improved alignment of error codes listed in xbrlerrors.htm and the error codes in the testcase files. Change of @num on e60502000ng to agree with others in the same file.
	edbody.dtd: attribute 'cite' is no longer allowed on element 'blockquote'.
	Remark added to e61404 due to discrepancy between wording in the manual and results of variation 007gd.
	Remark added to e61006 to clarify the 'normalized string' requirement.
	Three new variations in e60516 to exercise validation of HTML text block bodies against the DTD.
	These test variations were corrected so that they are more likely to produce only the error being tested:
	e60306101ng
	e60306103ng
	e60502001ng
	e60502003ng
	e60523001ng
	e60523002ng

	e60903016gd
	e60904000gd
	e60904001ng
	e60907001ng
	e61003002ng
	e61003003ng
	e61004001gd
	e61004003ng
	e61403000gd
	e61404003gd
	e61602000gd
	e61603001ng
	e61604001ng
	e61604006gd
	e61604009gd
	e61608001gd
	e61609000gd
	e62202033ng
13-091128	testcases.xml: removed references to nonexistent folders.
	e61403000gd: removed as unnecessary.
	e603061**: removed because redundant with e622**** variations.
	e603064**: removed because redundant with e622**** variations.
	e603115**: removed because redundant with e622**** variations.
	e60403004ng: corrected redundant labels.
	e60502001ng, e60502002ng: corrected irrelevant facts in instance.
	e61006002ng: corrected redundant labels.
	e61609000gd: corrected so as not to have ineffectual arcs.
	edbody.dtd: corrected to disallow attributes cite, char, and charoff for consistency with EFM 5.2.2.2.
	e60516013ng, e60516014ng: corrected redundant labels.
	605-16-html-limited-testcase.xml: Corrected namespace and corrected
	e60516015ng and e60516016gd for consistency with edbody.dtd
	e60709: added variation e60709000gd to cover mark characters and
	variation e60709002ng to cover case-sensitivity.
13-091201	e60403005ng and e60403006ng added to catch XBRL 2.1 validity.
13-100104	Removed spurious <err> element from variation e60709000gd.</err>
13-100303	Removed e61602 because it is redundant with Dimensions 1.0.
14-100405	Moved dei: EntityCommonSharesOutstanding tests from e60521 to
14 100403	e60526; warning conditions changed but code name unchanged.
	Renumbered e60520, e60521 variations and removed their dependence
	on the us-gaap 2008 element schema.
	Removed e60531 which required an order attribute on footnoteArc and
	removed error du-0531-Footnote-Relationship-Order from
	xbrlerrors.htm.
	Updated e6220{1,2,3,4} to test for taxonomy RR 2010.
	Changed all dei:DocumentType contents to 8-K except in e605** test
	cases where dei: DocumentType is relevant to the rule.
	Tests e60511 corrected to remove unused unit declarations and added facts to use all declared units.
	*-testcase.xml: Updated to have XHTML-formatted equivalent of EFM

	v14 DRAFT contents. Added lib/descriptions.htm consolidating the HTML version of all rules in the suite.
14-100406	e60704007ng: content corrected to use invalid ISO date "2009-9-12". e60403007gd: added Dimensions 1.0 common domain test.
14-100409	e60521***: Removed stray N-1A document type occurrences. /lib folder: From <a href="http://www.sec.gov/info/edgar/">http://www.sec.gov/info/edgar/</a> folder, added
11.100/00	edgartaxonomies.xml and erxl.xsd.
14-100630	e60515005gd: DocumentType set to 8-K to avoid 6.5.26 violation.
	e60530000ng: DocumentType set to 8-K to avoid 6.5.26 violation.
	e60703: added missing <assert> elements to variations. e60703006ng: added 'xbrl.sec.gov' to reserved authority names.</assert>
	e60903017gd: Changed URI to not violate a 'should' condition in 6.7.9.
	e6100600*: DocumentType set to 8-K to avoid 6.5.26 violation.
	e6100800*: DocumentType set to 8-K to avoid 6.5.26 violation.
	e61603: Added remark regarding the need to evaluate with respect to
	primary items, not just presence of dimensions.
	e62202033ng, e62202054ng: Corrected Schema and XBRL 2.1 errors.
	e62203024ng, e62203034ng: Cases covering RR 2010 taxonomy.
16-110210	For all variations in all test cases, removed unnecessary units, facts,
	and unnecessary dependencies on us-gaap taxonomy schemas.
	edgartaxonomies.xml: add XBRL International recommended roles, arc
	roles and types
	e60403: add variation 011ng formerly e60901001ng
	e60510: add variation clarifying that an instance has to be 24 hours
	and 1 second or more after the start of any duration
	e60510: correct testcase file which had incorrect files included
	e60515: new variations covering nonnum: textBlockItemType
	e60516: add variation for when an xmlns attribute appears
	e60523: add variation 004ng to test parameter – cik mismatch
	e60535: new test case and variations for new section
	e60713: add variation for fact-explanatoryFact e60714: remove variation 000gd
	e60774: remove variation odogu e60728: new variations covering nonnum:domainItemType
	e60728: update to match edgartaxonomies.xml namespace authorities
	e60722: removed
	e60703: reflect changes in edgartaxonomies.xml
	e60704: reflect changes in edartaxonomies.xml
	e60901: move variation 001ng to e60403 as an xlink-level validation
	e60903: remove files not needed in variations 000, 004, 011 – 016
	e60904: remove 000gd and files not needed
	e61005: remove redundant variations for namesepace authorities
	e61604: add variations 014 – 018, removing 010 for clarification
	e61604: remove 'good' variations 006, 007, 008, 009
	e61604: add 'nogood' variations 010, 011, 012, 013
	e61605: use rr 2008 in preference to ici 2006
	lib/error.xml: add error codes
	Many schemas: add elementDefaultForm='qualified'
	Many instances: change units for better alignment with forthcoming XBRL International Unit Type Registry
	Many files: change to encoding="US-ASCII"
	I waity files. Change to encouning= 03-A3CH

16-110225 Added detail in the 'Library Files' section of this document about the edgartaxonomies.xml file and others. Corrected EntityRegistrantName to match variation name in some 30 instance files. e60703, e60716, e62201: clarify that these tests use local copy of edgartaxonomies.xml. e60311: correct variation 512ng to use a smaller set of linkbases. e60403: correct instance to match variation 009gd's intent. e60510: correct period date to avoid warning message. e60515, e60530, e61405: indicate where EFM has not yet been corrected to reflect validation intent. e60520: split variations into those which use 2008 dei taxonomy and those which use 2011 dei in which DocumentType is enumerated. e60521: remove EntityCommonSharesOutstanding variations. e60530: add remark confirming that EFM 16 has incorrect text. e60725: correct 001ng which had a schema validation error. e60728001ng: change context end date to avoid warnings. e60901: remove testcase entirely, it is now covered by e60403. e61203: correct variation 009 description. e62202, forbidden.xml: correct bad invest-doc linkbase reference.