

Standard Business Reporting

Australian Taxation Office

ATO Taxonomy Architecture and Naming Conventions

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* This document and its attachments are **Unclassified.**

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VERSION CONTROL

| **Version** | **Date** | **Description of changes** |
| --- | --- | --- |
| 1.2 | 07/06/2018 | Non Functional updates:  **Section 3.2 SBR Generated XBRL**  Link to ‘SBR AU Naming Convention v6.0-20120827.pdf’ removed and replaced with ‘SBR AU Naming Convention v7.0 201712214.pdf’. |
| 1.1 | 23/11/2017 | Updated with the following **non-functional** change:  **Deleted :**  **‘Section 1.3 RELATIONSHIP OF THIS DOCUMENT TO THE ATO COMMON MIG**  The intention is to merge the detail within this document into the ATO Common Message Implementation Guide (cMIG) at a later date.’.  *The cMIG is being deconstructed into smaller discrete reference documents and is expected to be fully replaced 14th December 2017.* |
| 1.0 | 31/08/2017 | Versioned to Final. No functional change. |
| 0.2 | 02/03/2017 | Minor grammatical errors rectified. |
| 0.1 | 23/02/2017 | Draft for consultation at the Software Developer Technical Working Group (TWG). |

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# **Introduction**

Purpose

The purpose of this document is to describe the main changes made between the SBR taxonomy and the new ATO taxonomy architecture, along with the naming conventions applied by the ATO to taxonomy files.

Audience

The audience for this document is any organisation that will be building any ATO SBR services into their products. Typically this will be software application developers.

# **ATO generated XBRL taxonomy architecture**

* 1. Background

Repeated feedback from SWDs is the issue around the SBR taxonomy and the fact that each time the ATO produces a new version of a reporting taxonomy it has breaking namespace changes. The ATO presented some options to rectify this irritant at the SWD TWG on the 18th August 2016 (information links below):

* <http://softwaredevelopers.ato.gov.au/sites/default/files/resource-attachments/20160818_Report_Taxonomies_-_Removal_of_Versioning.ppt>
* <http://softwaredevelopers.ato.gov.au/sites/default/files/resource-attachments/20160818%20Taxonomy%20Sample.zip>

After consultation, the ATO proceeded to implement the new taxonomy for ATO generated reports.

* 1. Differences between ATO generated taxonomies and SBR

| **Focus** | **Synopsis of change** | **Change rationale** |
| --- | --- | --- |
| General | The schema and linkbase files contain a date and timestamp. | * allows determination of the generation date. |
| SBR definitional taxonomy | The schema and linkbase files do not directly link back to the definitional taxonomy. | * all information is self-contained in five files to decouple from SBR and have a self-describing suite of files. |
| SBR data types | Data elements have their meta-data (minOccurs, patterns, enumerations) directly against the elements rather than creating data types that are then referenced. | * this was done to have a self-describing stand-alone taxonomy suite. |
| Labels | Alias values are included in the label linkbase. | * this has been done so that the relationship to the CST/MST meta-data is more obvious. These are included before the report labels which again gives third parties an option for finding appropriate labels for data elements. |
| XLink Labels | XLink locator labels for data elements in the presentation Linkbase now include the Alias of the data element rather than just the TREF ID. | * this enables SWDs who wish to interrogate the taxonomy files to find appropriate report labels a little easier. |
| XBRL Concept Naming | XBRL concepts such as Hypercubes, Abstracts and Roles are now named using the abbreviated context acronyms as found in the MST/CST artefacts. | * this enables SWDs who wish to interrogate the taxonomy files to find appropriate report labels a little easier. |
| Reference labels | Decoupling of SBR AU is discoverable. | * reference labels are included to indicate the link back to the SBR definitional taxonomy. |
| Schema reference change | SBR implementation:  http://sbr.gov.au/taxonomy/sbr\_au\_reports/ato/fbt/fbt\_0002/fbt.0002.lodge.request.02.00.report.xsd  ATO implementation:  http://sbr.gov.au/taxonomy/sbr\_au\_reports/ato/fbt/fbt\_0002/ato.fbt.0002.2011.02.00.report.xsd | * the schema reference becomes a logical location * By default operation is not included unless really required. * By default request/response is not included unless really required for two way interactions. |
| Target namespace | The target namespace is the only namespace for the entire XBRL report (besides those for XBRL itself) and is not versioned.  SBR implementation:  http://sbr.gov.au/rprt/ato/fbt/fbt.0002.lodge.request.02.00.report  ATO implementation:  http://www.sbr.gov.au/ato/fbt | * This is the main driver for the taxonomy changes – this minimises the ATO breaking the interface by removing the versioning. The lack of action and/or request response (where necessary) also facilitates ongoing implementation. * The MST/CST will still have references to SBR source namespaces. |
| Item order | The item order will follow the order in the MST. | * This is to facilitate alignment between the MST and message on the wire. |
| gYear/GMonth/GDay | Rather than use these data types which can include a time-zone that are now represented as a base of int instead. These data types need a unit ref and decimal attribute. | * This has been done to remove confusion over time zones. |
| MST equals Taxonomy | The new taxonomy architecture now enforces the taxonomy data elements to match the MST. | * Elements must be within the MST to be within a report. |
| Private linkbase modules | Not generated by the ATO. | * The ATO does not have the concept of public and private files and therefore they are not produced. |

* 1. ATO taxonomy publication

ATO generated taxonomies will be placed in the Service Suite zips along with service artefacts. They will no longer be published on YETI or on SBR ShareFile.

# **Naming conventions and files**

* 1. XBRL taxonomy files

An XBRL Taxonomy is a collection of taxonomy schemas and linkbases. A taxonomy schema is an XML schema document (file). Linkbases are XML documents (file) which follow the XLink specification.

The XBRL 2.1 specification defines five different kinds of linkbases.

* Label Linkbase
* Reference Linkbase
* Calculation Linkbase
* Definition Linkbase
* Presentation Linkbase

Note: Both SBR and ATO generated taxonomies do not use the Calculation Linkbase.

* 1. SBR generated XBRL

SBR generated XBRL produces the files as detailed above with naming conventions as defined in [SBR AU Naming Convention v7.0 201712214.pdf](http://www.sbr.gov.au/__data/assets/file/0004/47092/SBR_AU_Naming_Convention_v7.0_201712214.pdf)**.**

ATO XBRL reports generated by SBR prior to January 2017 that are not being updated remain as is - they can be found on Yeti and SBR ShareFile.

The ATO has, however, changed the publication packaging where both ATO and SBR generated taxonomies are used within a suite of services – in particular ‘parent’ and ‘child’ reports/messages for Income Tax Returns (ITR) during the period of migration.

* 1. ATO generated schema naming convention

### Background

As at January 2017, the ATO started to apply schema naming conventions as agreed with Software Developers.

The new convention was communicated via the Software Developer Working Group (TWG) on the 8th December 2016 for the schemas only and did not include changes to the linkbase files. This information has been added at section 3.4 of this document.

The change to naming conventions was due to four main drivers:

1. The need to distinguish XBRL reports from ‘vanilla’ XML as they both have the same file extensions,
2. To negate the inconsistency with naming for different formats for ATO reports,
3. The ability to re-use schemas across service actions and request/response messages where necessary,
   * *When a schema should be re-used for a request/response and/or across actions it had a name variation – despite the schema being the same re-used message structure for exchanges.*
4. The ability to differentiate between SBR and ATO generated taxonomy files.
   * *With the advent of ATO generating XBRL schemas with a taxonomy architecture implemented without namespace versioning, the constraints of SBR Program naming conventions are opened up - yet needed to be managed with seven years of a recognised naming convention and relationships to supporting artefacts*

### New conventions at a glance

The ATO names report schemas as:

***ato.[message acronym].[collaboration].[year].[action].[response].[major version].[minor version].report.xsd***

* The acronym of ‘ato’ has been added.
* A new component of ‘year’ has been added.
* The component of ‘action’ becomes optional so a schema can be re-used over multiple actions if necessary.
* The component of ‘request’ has been omitted.
* The component of ‘response’ will be used when the response is different to the request schema.

### In detail

| **Name Component** | **Description and value** | **Optionality** | **Comments** |
| --- | --- | --- | --- |
| ato | Agency acronym identifier   * *set to ‘ato’* | Mandatory | * The ‘ato’ prefix has been added for clarity and to negate any potential clashes in the future at a whole of government level with other agencies. |
| message acronym | Message acronym identifier   * *set to message acronym [value]* | Mandatory | * Relationships of messages for ‘parent’ and ‘child’ are found in the Service Registry. |
| collaboration | Collaboration numeric   * *set to numeric [nnnn]* | Mandatory | * Collaboration numeri are defined at the message level, with the ‘parent’ message typically being the service. |
| year | Year in the which the message is to be deployed to production   * *set to year [ccyy]* | Mandatory | * A message could be reused over a number years with a service being versioned yet not the message itself. |
| action | Action descriptor for a message used in a service   * *set to an action as defined in platform specific WIGs [value]* | Optional | * Where a message is to be re-used across multiple actions this name component would be absent. * An action over multiple platforms is first defined by SBR Core Services WIG (a pre-lodge would be in the schema instead of validate as an example). |
| response | Outbound response message for a request action   * *set to ‘response’* | Optional | * The deletion of the ‘request’ component to the name implies the message is both a request and response – thus allowing for re-use. * The change to an optional ‘response’ component in the name would only be necessary if a response message schema is different to the request message schema. |
| major version | Major version numeric   * *set to numeric [nn]* | Mandatory | * Set to ‘01’ for first release. * Incremented where there is a break to the interface. |
| minor version | Minor version numeric   * *set to numeric [nn]* | Mandatory | * Set to ‘00’ for first release. * Incremented where there is a minor interface change. |
| report | XBRL schema identifier   * *set to ‘report’* | Mandatory for XBRL  n/a for XML or JSON | * The ‘report’ component is used to distinguish XBRL from XML message contracts. |

### Comparative examples

| **File** | **Pre January 2017 conventions** | **January 2017 onward conventions** |
| --- | --- | --- |
| XBRL | as.0001.list.request.02.00.report.xsd | ato.as.0001.2009.list.01.00.report.xsd |
|  | as.0001.list.response.02.00.report.xsd | ato.as.0001.2009.list.response.01.00.report.xsd |
|  | as.0001.prefill.request.02.00.report.xsd | ato.as.0001.2009.prefill.01.00.report.xsd |
|  | as.0001.prefill.response.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
|  | as.0001.prelodge.request.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
|  | as.0001.prelodge.response.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
|  | as.0001.lodge.request.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
|  | as.0001.lodge.response.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
| XML | abnregtaxadd.0001.lodge.request.01.00.xsd | ato.abnregtaxadd.0001.2016.lodge.01.00.xsd |
|  | abnregent.0001.prefill.request.01.00.xsd | ato.abnregent.0001.2016.prefill.01.00.xsd |
|  | abnregent.0001.prefill.response.01.00.xsd | ato.abnregent.0001.2016.prefill.response.01.00.xsd |
| JSON | ato.pmtpln.0001.submit.request.01.00.json | ato.pmtpln.0001.2015.submit.01.00.json |
|  | ato.pmtpln.0001.submit.response.01.00.json | ato.pmtpln.0001.2015.submit.response.01.00.json |

***ATO Disclaimer:*** *The examples above show the schema names if the messages were done in January 2017.They are in no way intended to imply the ATO is changing these services.*

* 1. ATO generated XBRL linkbase naming convention

### At a glance

The ATO names linkbase files using the schema standards as defined previously, along with the full name of the linkbase:

***ato.[message acronym].[collaboration].[year].[action].[response].[major version].[minor version].report – [linkbase full name].xml***

### In detail

| **Name Component** | **Description and value** | **Optionality** | **Comments** |
| --- | --- | --- | --- |
| Linkbase full name | Linkbase name   * *set one of the values below:*   + *definition*   + *label*   + *presentation*   + *reference* | Mandatory | * The full name of a linkbase has been used simply for ease of identification. |

### Comparative examples

| **SBR conventions** | **ATO conventions** |
| --- | --- |
| as.0001.list.request.02.00.defLink.xml | ato.as.0001.2009.list.01.00.report-definition.xml |
| as.0001.list.request.02.00.labLinkInfoCls.xml | ato.as.0001.2009.list.01.00.report-label.xml |
| as.0001.list.request.02.00.presLink.xml | ato.as.0001.2009.list.01.00.report-presentation.xml |
| as.0001.list.request.02.00.refLink.xml | ato.as.0001.2009.list.01.00.report-reference.xml |
| as.0001.list.request.02.00.report.xsd | ato.as.0001.2009.list.01.00.report.xsd |
| as.0001.list.response.02.00.defLink.xml | ato.as.0001.2009.list.response.01.00.report-definition.xml |
| as.0001.list.response.02.00.labLinkInfoCls.xml | ato.as.0001.2009.list.response.01.00.report-label.xml |
| as.0001.list.response.02.00.presLink.xml | ato.as.0001.2009.list.response.01.00.report-presentation.xml |
| as.0001.list.response.02.00.refLink.xml | ato.as.0001.2009.list.response.01.00.report-reference.xml |
| as.0001.list.response.02.00.report.xsd | ato.as.0001.2009.list.response.01.00.report.xsd |
| as.0001.prefill.request.02.00.defLink.xml | ato.as.0001.2009.prefill.01.00.report-definition.xml |
| as.0001.prefill.request.02.00.labLinkInfoCls.xml | ato.as.0001.2009.prefill.01.00.report-label.xml |
| as.0001.prefill.request.02.00.presLink.xml | ato.as.0001.2009.prefill.01.00.report-presentation.xml |
| as.0001.prefill.request.02.00.refLink.xml | ato.as.0001.2009.prefill.01.00.report-reference.xml |
| as.0001.prefill.request.02.00.report.xsd | ato.as.0001.2009.prefill.01.00.report.xsd |
| as.0001.prefill.response.02.00.defLink.xml | ato.as.0001.2009.01.00.report-definition.xml |
| as.0001.prefill.response.02.00.labLinkInfoCls.xml | ato.as.0001.2009.01.00.report-label.xml |
| as.0001.prefill.response.02.00.presLink.xml | ato.as.0001.2009.01.00.report-presentation.xml |
| as.0001.prefill.response.02.00.refLink.xml | ato.as.0001.2009.01.00.report-reference.xml |
| as.0001.prefill.response.02.00.report.xsd | ato.as.0001.2009.01.00.report.xsd |
| as.0001.prelodge.request.02.00.defLink.xml |  |
| as.0001.prelodge.request.02.00.labLinkInfoCls.xml | ***Note:*** *the five files above replace those on the left for a* |
| as.0001.prelodge.request.02.00.presLink.xml | *pre-lodge and lodge.* |
| as.0001.prelodge.request.02.00.refLink.xml |  |
| as.0001.prelodge.request.02.00.report.xsd |  |
| as.0001.prelodge.response.02.00.defLink.xml |  |
| as.0001.prelodge.response.02.00.labLinkInfoCls.xml |  |
| as.0001.prelodge.response.02.00.presLink.xml |  |
| as.0001.prelodge.response.02.00.refLink.xml |  |
| as.0001.prelodge.response.02.00.report.xsd |  |
| as.0001.lodge.request.02.00.defLink.xml |  |
| as.0001.lodge.request.02.00.labLinkInfoCls.xml |  |
| as.0001.lodge.request.02.00.presLink.xml |  |
| as.0001.lodge.request.02.00.refLink.xml |  |
| as.0001.lodge.request.02.00.report.xsd |  |
| as.0001.lodge.response.02.00.defLink.xml |  |
| as.0001.lodge.response.02.00.labLinkInfoCls.xml |  |
| as.0001.lodge.response.02.00.presLink.xml |  |
| as.0001.lodge.response.02.00.refLink.xml |  |
| as.0001.lodge.response.02.00.report.xsd |  |
| as.0001.private.02.00.defLink.xml |  |
| as.0001.private.02.00.labLinkInfoCls.xml |  |
| as.0001.private.02.00.module.xsd |  |
| as.0001.private.02.00.refLink.xml |  |

***ATO Disclaimer:*** *The examples above show the schema and linkbase names as if the service was designed 2017 and are not intended to imply the ATO is changing this service.*