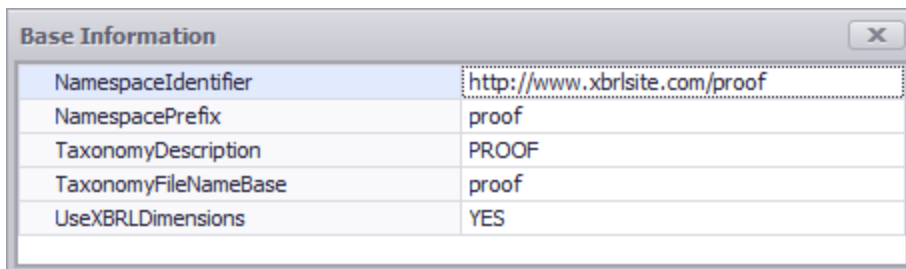# "Proof Representation" Tutorial[1]

Before starting, be sure to clear out any other information in the application by selecting "File", then "New", and then "Model" from the menu ribbon. Confirm that you want to delete the model information which will also delete all report information in the Luca application.

Rather than entering this information, you can copy/paste information from Excel to get information into the Luca application[2].

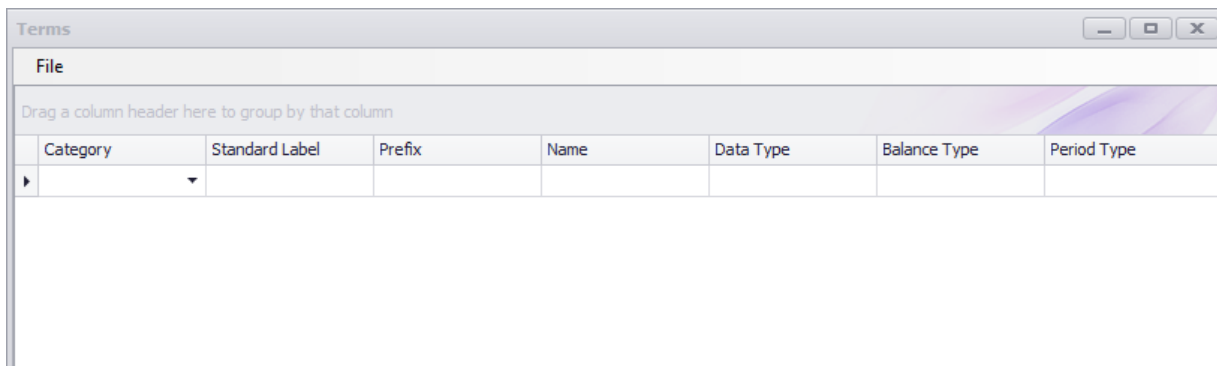**Step 1: Enter base information.**

Select "Edit" and then "Base Information". The Base Information form will appear. Enter the base information that will be used by the XBRL taxonomy:

Base Information		X
NamespaceIdentifier	http://www.xbrlsite.com/proof	
NamespacePrefix	proof	
TaxonomyDescription	PROOF	
TaxonomyFileNameBase	proof	
UseXBRLDimensions	YES	

Step 2: Enter term information.

Select "Edit" and then "Terms". The Terms form will appear. Enter term information. When you begin, your form will look like this:

Terms						_ □ X
File						

Drag a column header here to group by that column

Category	Standard Label	Prefix	Name	Data Type	Balance Type	Period Type
▼						

After you have finished entering your terms for the PROOF XBRL taxonomy, your term information for the XBRL taxonomy should look like this: (not all of the terms are shown, please see the Excel spreadsheet which has all term information)

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[1] Proof representation, http://xbrlsite.azurewebsites.net/2020/master/proof/index.html
[2] Excel spreadsheet with import information, http://www.xbrlsite.com/2020/luca/Proof-Luca-Import.zip

Terms							✕
Drag a column header here to group by that column							
Category	Standard Label	Prefix	Name	Data Type	Balance Type	Period Type	
▶ Hypercube ▼	Balance Sheet [Hypercube]	proof	BalanceSheetHypercube				▲
LineItems	Balance Sheet [Line Items]	proof	BalanceSheetLineItems				
Abstract	Balance Sheet [Arithmetic]	proof	BalanceSheetSet				
Concept	Assets	proof	Assets	Monetary	Debit	Instant	
Concept	Liabilities	proof	Liabilities	Monetary	Credit	Instant	
Concept	Equity	proof	Equity	Monetary	Credit	Instant	
Hypercube	Comprehensive Income Statement...	proof	ComprehensiveIncomeStatementHype...				
LineItems	Comprehensive Income Statement...	proof	ComprehensiveIncomeStatementLineI...				
Abstract	Comprehensive Income [Roll Up]	proof	ComprehensiveIncomeRollUp				
Concept	Revenues	proof	Revenues	Monetary	Credit	Duration	
Concept	Expenses	proof	Expenses	Monetary	Debit	Duration	
Concept	Gains	proof	Gains	Monetary	Credit	Duration	
Concept	Losses	proof	Losses	Monetary	Debit	Duration	
Concept	Comprehensive Income	proof	ComprehensiveIncome	Monetary	Credit	Duration	
Concept	Investments by Owners	proof	InvestmentsByOwners	Monetary	Credit	Duration	
Concept	Distributions to Owners	proof	DistributionsToOwners	Monetary	Debit	Duration	
Hypercube	Changes in Equity [Hypercube]	proof	ChangesInEquityHypercube				
LineItems	Changes in Equity [Line Items]	proof	ChangesInEquityLineItems				
Abstract	Changes Equity [Roll...	proof	ChangesInEquityRollForward				

Alternatively, you can copy information from Excel and then paste it into the TERMS form.

Step 3: Enter label information.

Select "Edit" and then "Labels" from the menu ribbon. Before you enter any information, the labels form will look as follows:

Labels				✕
Drag a column header here to group by that column				
Term	Language	Label Role	Label	
▶ ▼				

After you have finished entering your label information for the PROOF XBRL taxonomy, your labels information for PROOF should look like this:

Labels

Term	Language	Label Role	Label
proof:Expenses	English	Negated	(Expenses)
proof:Losses	English	Negated	(Losses)
proof:Equity	English	PeriodStart	Equity, Beginning Balance
proof:Equity	English	PeriodEnd	Equity, Ending Balance
proof:DistributionsToOwners	English	Negated	(Distributions to Owners)
proof:Assets	English	Documentation	Assets are probable future economic beneits obtained or controlled by a particular entity as a result of past...
proof:Equity	English	Documentation	Equity or net assets is the residual interest in the assets of an entity that remains after deducting its liabiliti...
proof:Liabilities	English	Documentation	Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular ...
proof:ComprehensiveIncome	English	Documentation	Comprehensive income is the change in equity of a business enterprise during a period from transactions a...
proof:InvestmentsByOwners	English	Documentation	Investments by owners are increases in equity of a particular business enterprise resulting from transfers t...
proof:DistributionsToOwners	English	Documentation	Distributions to owners are decreases in equity of a particular business enterprise resulting from transferrin...
proof:Revenues	English	Documentation	Revenues are inflows or other enhancements of assets of an entity or settlements of its liabilities (or a com...
proof:Expenses	English	Documentation	Expenses are outflows or other using up of assets or incurrences of liabilities (or a combination of both) fro...
proof:Gains	English	Documentation	Gains are increases in equity (net assets) from peripheral or incidental transactions of an entity and from all...
proof:Losses	English	Documentation	Losses are decreases in equity (net assets) from peripheral or incidental transactions of an entity and from ...
proof:NonvestedFairValue	English	PeriodStart	Nonvested Fair Value, Beginning Balance
proof:NonvestedFairValue	English	PeriodEnd	Nonvested Fair Value, Ending Balance
proof:Equity	English	OrigionallyStated	Equity, Origionally Stated
proof:Equity	English	Restated	Equity, Restated

Again, alternatively this information can be copied and then pasted from Excel.

Step 3: Enter structure information.

Select "Edit" and then "Structures" from the menu ribbon. Before you enter any information, the structures form will look as follows:

Structures

Identifier	Title	Sequence

After you have finished entering your structures for the PROOF XBRL taxonomy, your structure information for the XBRL taxonomy should look like this:

Structures

Identifier	Title	Sequence
BalanceSheet	01-Balance Sheet	1
ComprehensiveIncome	02-Comprehensive Income	2
ChangesInEquity	03-Changes in Equity	3
PriorPeriodErrors	04-Prior Period Errors	4
VarianceAnalysis	05-Variance Analysis	5
StockPlanActivity	06-Stock Plan Activity	6
FinancialHighlights	07-Financial Highlights	7
Policies	08-Policies	8
SegmentRevenues	09-Segment Revenues	9

Again, alternatively this information can be copied/pasted from Excel.

Step 4: Enter associations information.

Select "Edit" and then "Associations" from the menu ribbon. Before you enter any information, the associations form will look as follows:

Structure Type	Network Identifier	Association From Name	Association Role	Association To Name	Calculation Polarity	Preferred Label Role	Sequence

Associations

Drag a column header here to group by that column

After you have finished entering your associations for the PROOF XBRL taxonomy, your associations information for the XBRL taxonomy should look like this: (not all is shown, please see the Excel spreadsheet used for importing to see all associations)

Associations

Drag a column header here to group by that column

Structure Type	Network Identifier	Association From Name	Association Role	Association To Name	Calculation Pol...	Preferred Label R...	Sequence
Presentation	BalanceSheet	proof:BalanceSheetHypercube	Parent-Child	proof:BalanceSheetLineIt...			1
Presentation	BalanceSheet	proof:BalanceSheetLineItems	Parent-Child	proof:BalanceSheetSet			2
Presentation	BalanceSheet	proof:BalanceSheetSet	Parent-Child	proof:Assets			3
Presentation	BalanceSheet	proof:BalanceSheetSet	Parent-Child	proof:Liabilities			4
Presentation	BalanceSheet	proof:BalanceSheetSet	Parent-Child	proof:Equity			5
Definition	BalanceSheet	proof:BalanceSheetLineItems	RootMember-Member	proof:Assets			1
Definition	BalanceSheet	proof:BalanceSheetLineItems	Member-Member	proof:Liabilities			2
Definition	BalanceSheet	proof:BalanceSheetLineItems	Member-Member	proof:Equity			3
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeStatementHypercube	Parent-Child	proof:ComprehensiveInc...			11
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeStatementLineItems	Parent-Child	proof:ComprehensiveInc...			12
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeRollUp	Parent-Child	proof:Revenues			13
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeRollUp	Parent-Child	proof:Expenses		Negated	14
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeRollUp	Parent-Child	proof:Gains			15
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeRollUp	Parent-Child	proof:Losses		Negated	16
Presentation	ComprehensiveIncome	proof:ComprehensiveIncomeRollUp	Parent-Child	proof:ComprehensiveInc...			17
Calculation	ComprehensiveIncome	proof:ComprehensiveIncome	Total-Item	proof:Revenues	Add		18
Calculation	ComprehensiveIncome	proof:ComprehensiveIncome	Total-Item	proof:Expenses	Subtract		19
Calculation	ComprehensiveIncome	proof:ComprehensiveIncome	Total-Item	proof:Gains	Add		20
Calculation	ComprehensiveIncome	proof:ComprehensiveIncome	Total-Item	proof:Losses	Subtract		21
Definition	ComprehensiveIncome	proof:ComprehensiveIncomeStatementLineItems	RootMember-Member	proof:Revenues			6
Definition	ComprehensiveIncome	proof:ComprehensiveIncomeStatementLineItems	Member-Member	proof:Expenses			7
Definition	ComprehensiveIncome	proof:ComprehensiveIncomeStatementLineItems	Member-Member	proof:Gains			8

Again, alternatively this information can be copied/pasted from Excel.

Step 5: Enter rules information.

Select "Edit" and then "Rules" and then "Consistency" from the menu ribbon. Before you enter any information, the rules form will look as follows:

Rules

Drag a column header here to group by that column

Rule Type	Rule Code	Rule	Network	Concept	Sequence	Commentary

After you have finished entering your rules for the PROOF XBRL taxonomy, your rules information for the XBRL taxonomy should look like this: (NOTE that this is not a complete set of rules yet; variance, adjustment, member aggregation, and other still need to be supported to make this complete)

Rule Type	Rule Code	Rule	Network	Concept	Sequence	Commentary
⊞ Consistency	BS01	$Assets = ($Liabilities + $Equity)	BalanceSheet	proof:Assets	1	
⊞ Consistency	IS01	$ComprehensiveIncome = ($Revenues - $Expenses + $Gains - $L...	ComprehensiveIncome	proof:ComprehensiveIn...	2	
⊞ RollForward	SHE01	$Equity_BalanceStart + $ComprehensiveIncome + $InvestmentsB...	ChangesInEquity	proof:Equity	3	

IMPORTANT NOTE!!! If you copy/paste the rule into the Luca application from the Excel spreadsheet, you will need to enter the three variables.

Close the rules form.

Step 6: Enter facts information.

Select "Edit" and then "Facts" from the menu ribbon. Before you enter any information, the facts form will look as follows:

Reporting Entity Aspect	Calendar Period Aspect	ConceptAspect	Fact Value	Units	Rounding	Sequence

After you have finished entering your facts the PROOF report, your form should look like this:

Facts							✕

					Save		

Reporting Entity Aspect	Calendar Period Aspect	ConceptAspect	Fact Value	Units	Rounding	Sequence
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-12-31	proof:Assets	3500	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-12-31	proof:Liabilities	0	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-12-31	proof:Equity	3500	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Revenues	7000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Gains	1000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Expenses	3000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Losses	2000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Comprehens...	3000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2019-12-31	proof:Assets	0	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2019-12-31	proof:Liabilities	0	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2019-12-31	proof:Equity	0	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Investments...	1000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Distributions...	500	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Revenues	6000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Gains	750	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Expenses	2000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Losses	1000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Comprehens...	3750	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Revenues	1000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Gains	250	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Expenses	1000	iso4217:USD	INF	
⊞ GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442	2020-01-01 | 2020-12-31	proof:Losses		iso4217:USD		

IMPORTANT NOTE!!! Notice the "Save" button above the facts that where entered. Be sure to press that "Save" button or the facts will not be saved by the application.

Step 7: Generate your XBRL taxonomy schema, linkbases, and XBRL instance.

After you have successfully entered all your term, label, structure, association, and rule information; then you can generate your XBRL taxonomy. This will include the XBRL taxonomy schema and the XBRL linkbases that will support your report.

To generate the XBRL taxonomy information, from the menu ribbon select "File" and then "Save as XBRL". The following standard Windows dialog box will appear which will let you save your file.
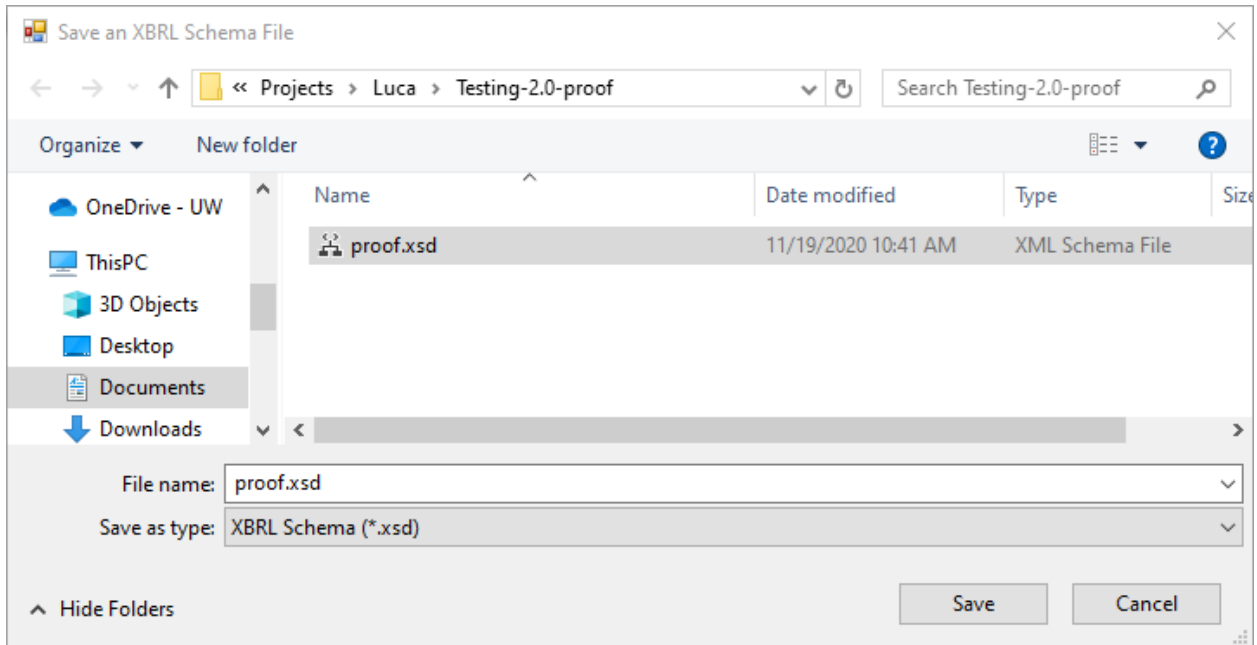
In the "File name:" text box of the form, enter "common.xsd" which will be the name of your XBRL taxonomy schema file.

Step 7: Verify that your XBRL is correct.

Luca does not provide XBRL syntax verification. And so, to validate the XBRL taxonomy and XBRL instance that you created, you will have to use an XBRL processor that provides XBRL, XBRL dimensions, and XBRL Formula validation.
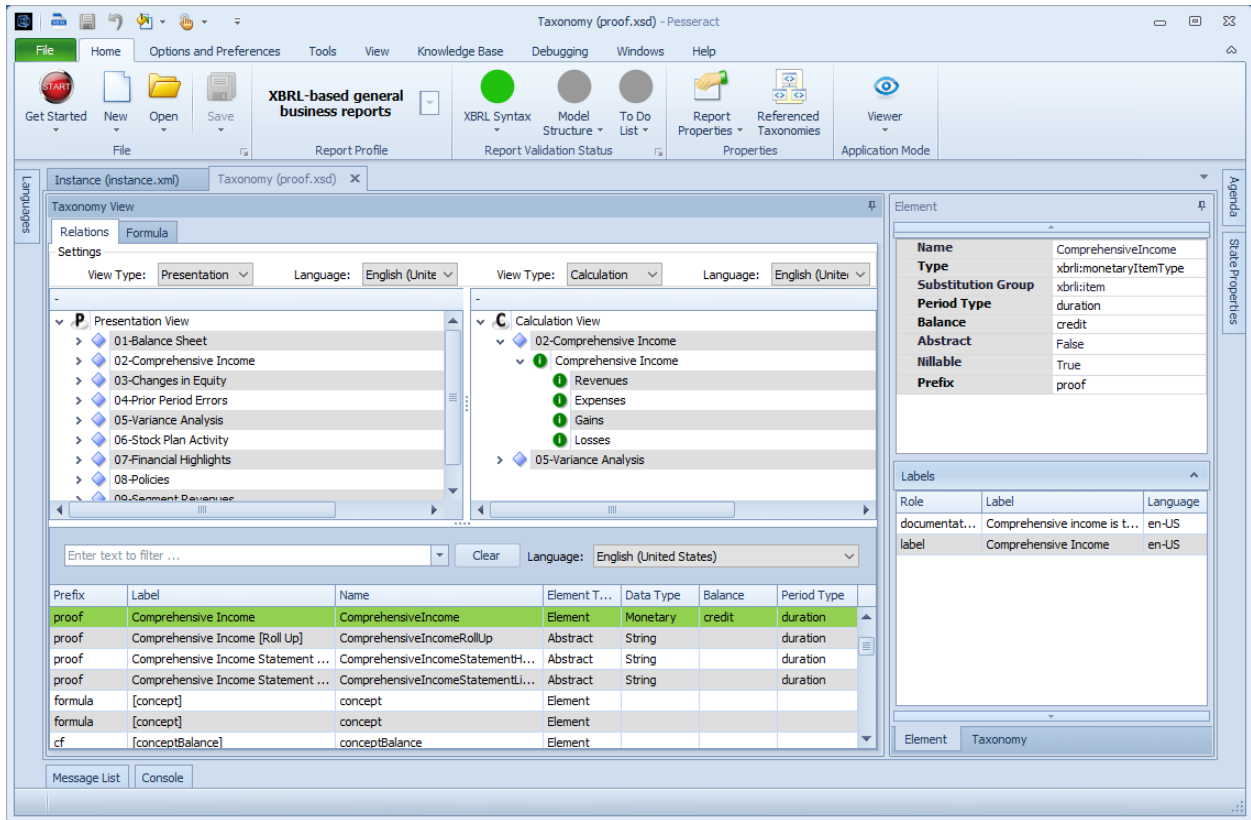
If you validate the XBRL files using your favorite XBRL processor, you should see that you have no errors:

This is what the PROOF XBRL taxonomy looks like in Pesseract[3]:

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[3] Pesseract, http://pesseract.azurewebsites.net/

Here is the XBRL instance:
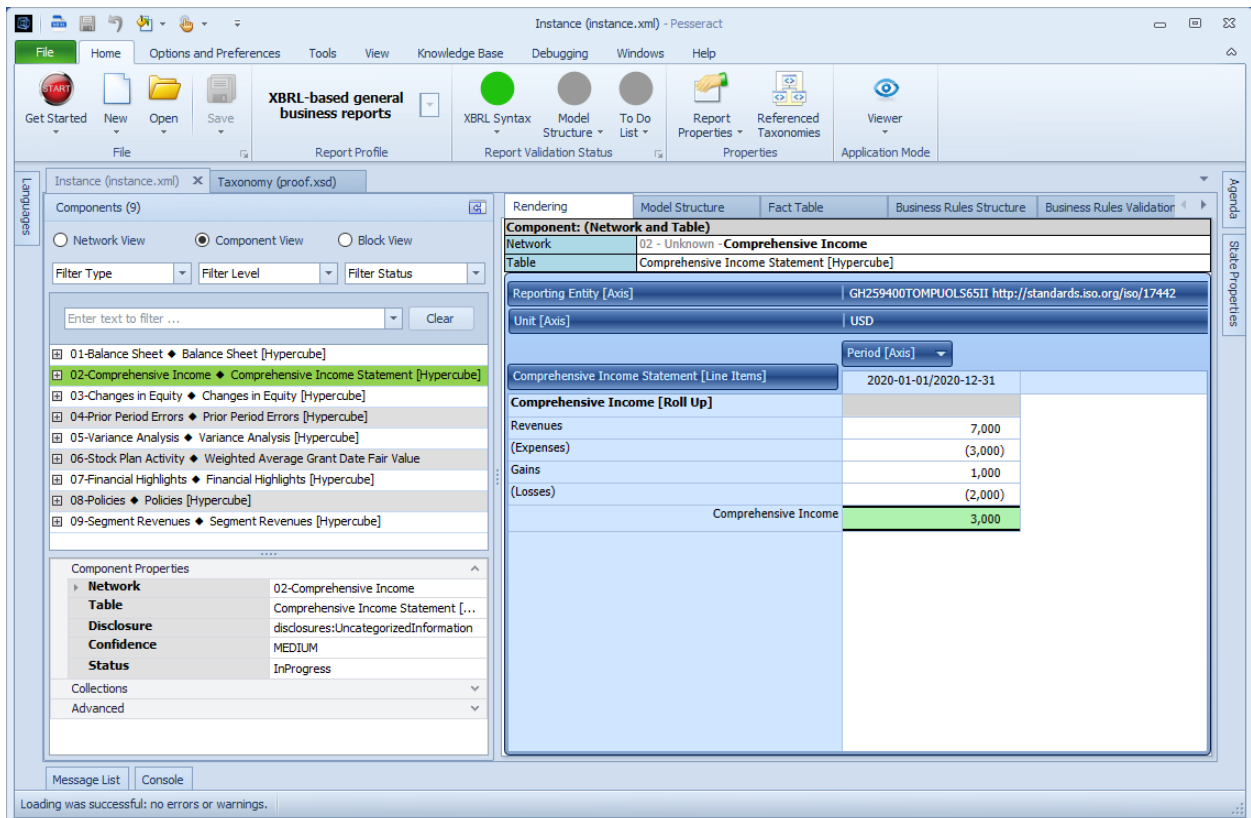
Here is the verification report generated by Pacioli for the PROOF representation[4]:

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[4] Pacioli report analysis, http://xbrlsite.azurewebsites.net/2020/master/proof/ReportAnalysis.html

Here is the XBRL Cloud Evidence Package for the PROOF representation[5]: