

Normalized Comparisons

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This document walks you through some of the functionality of Pesseract.

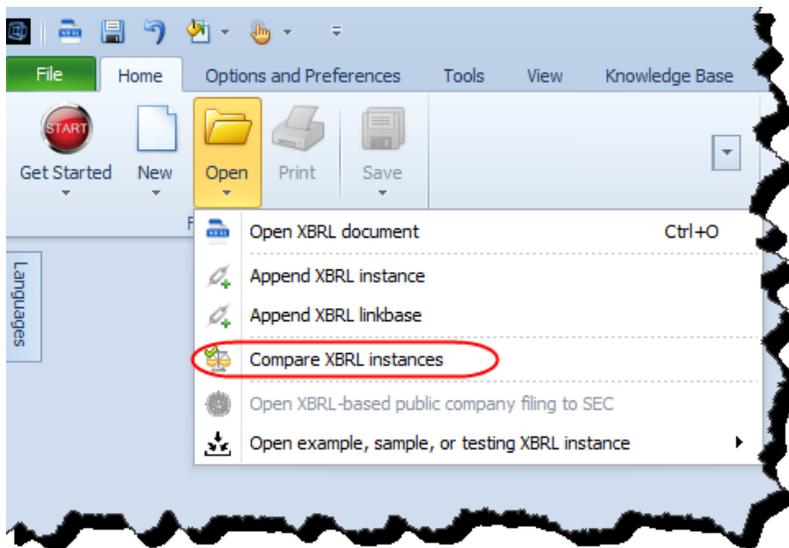
STEP 1: *Start Pesseract.*

Open the Pesseract application and the main form is displayed and the “Home” tab of the menu ribbon is displayed. Highlight all five files and copy all five of these links into your clipboard.

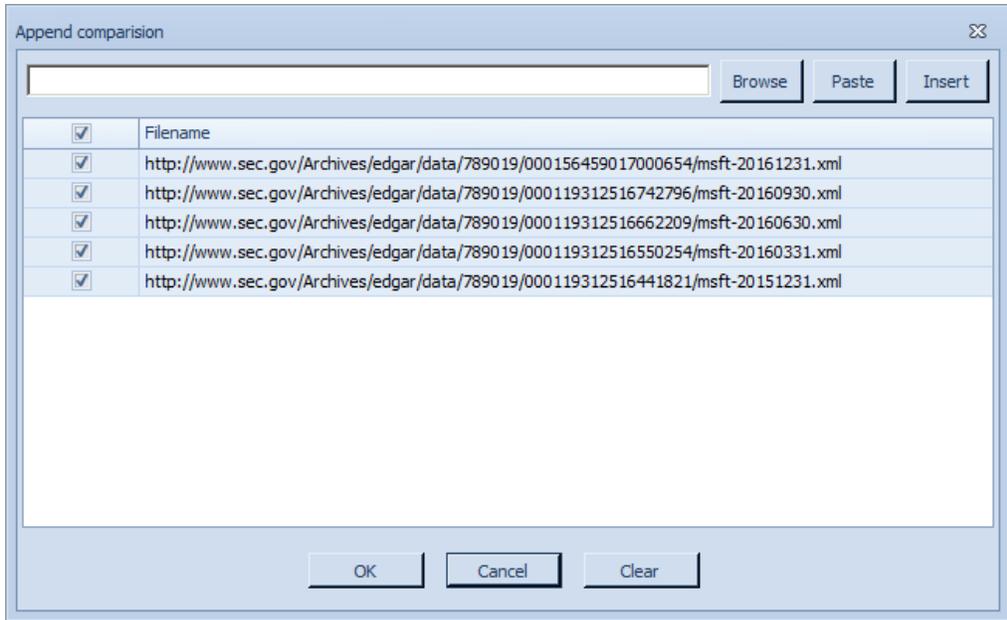
<http://www.sec.gov/Archives/edgar/data/789019/000156459017000654/msft-20161231.xml>
<http://www.sec.gov/Archives/edgar/data/789019/000119312516742796/msft-20160930.xml>
<http://www.sec.gov/Archives/edgar/data/789019/000119312516662209/msft-20160630.xml>
<http://www.sec.gov/Archives/edgar/data/789019/000119312516550254/msft-20160331.xml>
<http://www.sec.gov/Archives/edgar/data/789019/000119312516441821/msft-20151231.xml>

STEP 2: *Load period comparison.*

Press the “Open” icon on the “Home” menu ribbon. Select the “Compare XBRL instances” menu item.

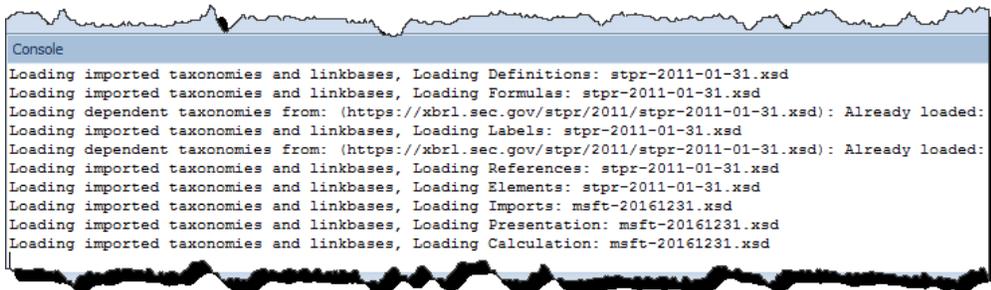


A form will open that looks like the form you see below but there will be no files in the list of Filenames. Press the “Paste” button. Now your form should look like the screen shot below with the list of the five file names you copied. (If you don’t get a list of files, try copying the five URLs into your clipboard again.)



Press the “OK” button.

You will see information scrolling in the Console form as each of the five XBRL instances load. It takes a few minutes depending on your internet connection speed; all of the documents and XBRL taxonomies are being downloaded from the SEC web site.



STEP 3: *After files have loaded.*

You will see messages appear in the Console window as the five reports load. After the five reports load, you will a screen that looks like the screen shot below. Note the five different periods.

What is going on is that Pesseract is using the reporting style code of the company to create a normalized comparison of the information in the five different reports. Note that this is a period comparison because all of the reports are for one economic entity (Microsoft) but for different periods.

Rendering	Model Structure	Fact Table	Business Rules Structure	Business Rules Validation Results	Elements
Component: (Network and Table)					
Network	001 - Unknown - General Information				
Table	General Information [Table]				
Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK				
Unit [Axis]	USD				
	Period [Axis]				
General Information [Line Items]	2016-07-01/2016-12-31	2016-07-01/2016-09-30	2015-07-01/2016-06-30	2015-07-01/2016-03-31	2015-07-01/2015-12-31
General Information [Hierarchy]					
Entity Registrant Name	MICROSOFT CORPORATION	MICROSOFT CORPORATION	MICROSOFT CORPORATION	MICROSOFT CORPORATION	MICROSOFT CORPORATION
Entity Central Index Key	0000789019	0000789019	0000789019	0000789019	0000789019
Entity Filer Category	Large Accelerated Filer	Large Accelerated Filer	Large Accelerated Filer	Large Accelerated Filer	Large Accelerated Filer
Trading Symbol	MSFT	MSFT	MSFT	MSFT	MSFT
Fiscal Year End	--06-30	--06-30	--06-30	--06-30	--06-30
Fiscal Year Focus	2017	2017	2016	2016	2016
Fiscal Period Focus	Q2	Q1	FY	Q3	Q2
Document Type	10-Q	10-Q	10-K	10-Q	10-Q
Balance Sheet Date	2016-12-31	2016-09-30	2016-06-30	2016-03-31	2015-12-31

The application leverages the fundamental accounting concept relations metadata to generate a normalized comparison of the five reports. Also, the application computes the roll ups for the balance sheet, income statement, statement of comprehensive income, and cash flow statement to show that all of the roll ups do, in fact, roll up. Click on the balance sheet network and you will see:

Component: (Network and Table)					
Network	101 - Unknown - Balance Sheet, Classified				
Table	Balance Sheet, Classified [Table]				
Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK				
Unit [Axis]	USD				
	Period [Axis]				
Balance Sheet [Line Items]	2016-12-31	2016-09-30	2016-06-30	2016-03-31	2015-12-31
Assets [Roll Up]					
Current Assets	144,949,000,000	157,909,000,000	139,660,000,000	128,421,000,000	127,812,000,000
Noncurrent Assets	79,661,000,000	54,615,000,000	54,034,000,000	53,448,000,000	52,286,000,000
Assets	224,610,000,000	212,524,000,000	193,694,000,000	181,869,000,000	180,098,000,000
Liabilities and Equity [Roll Up]					
Liabilities [Roll Up]					
Current Liabilities	70,787,000,000	58,810,000,000	59,357,000,000	44,354,000,000	42,643,000,000
Noncurrent Liabilities	85,014,000,000	83,342,000,000	62,340,000,000	62,709,000,000	60,675,000,000
Liabilities	155,801,000,000	142,152,000,000	121,697,000,000	107,063,000,000	103,318,000,000
Commitments and Contingencies					
Temporary Equity	0	0	0	0	0
Equity [Roll Up]					
Equity Attributable to Parent	68,809,000,000	70,372,000,000	71,997,000,000	74,806,000,000	76,780,000,000
Equity Attributable to Noncontrolling Interest	0	0	0	0	0
Equity	68,809,000,000	70,372,000,000	71,997,000,000	74,806,000,000	76,780,000,000
Liabilities and Equity	224,610,000,000	212,524,000,000	193,694,000,000	181,869,000,000	180,098,000,000

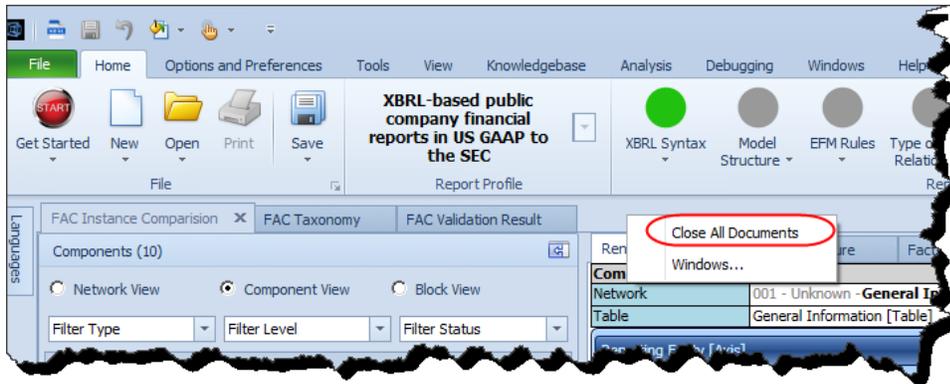
Cash flow statement:

Component: (Network and Table)					
Network	401 - Unknown - Cash Flow Statement				
Table	Cash Flow Statement [Table]				
Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK				
Unit [Axis]	USD				
	Period [Axis]				
Cash Flow Statement [Line Items]	2016-07-01/2016-12-31	2016-07-01/2016-09-30	2015-07-01/2016-06-30	2015-07-01/2016-03-31	2015-07-01/2015-12-31
Net Cash Flow [Roll Up]					
Net Cash Flow from Operating Activities [Roll Up]					
Net Cash Flow from Operating Activities, Continuing	17,842,000,000	11,549,000,000	33,325,000,000	24,861,000,000	14,192,000,000
Net Cash Flow from Operating Activities, Discontinued	0	0	0	0	0
Net Cash Flow from Operating Activities	17,842,000,000	11,549,000,000	33,325,000,000	24,861,000,000	14,192,000,000
Net Cash Flow from Investing Activities [Roll Up]					
Net Cash Flow from Investing Activities, Continuing	(33,221,000,000)	(18,470,000,000)	(23,950,000,000)	(13,877,000,000)	(8,394,000,000)
Net Cash Flow from Investing Activities, Discontinued	0	0	0	0	0
Net Cash Flow from Investing Activities	(33,221,000,000)	(18,470,000,000)	(23,950,000,000)	(13,877,000,000)	(8,394,000,000)
Net Cash Flow from Financing Activities [Roll Up]					
Net Cash Flow from Financing Activities, Continuing	17,345,000,000	14,329,000,000	(8,393,000,000)	(9,364,000,000)	(4,146,000,000)
Net Cash Flow from Financing Activities, Discontinued	0	0	0	0	0
Net Cash Flow from Financing Activities	17,345,000,000	14,329,000,000	(8,393,000,000)	(9,364,000,000)	(4,146,000,000)
Exchange Gains (Losses)	(8,000,000)	10,000,000	(67,000,000)	(45,000,000)	(62,000,000)
Net Cash Flow	1,958,000,000	7,418,000,000	915,000,000	1,575,000,000	1,590,000,000

Notice that 100% of the relations checked are consistent with expectations; consistency is indicated by the GREEN coloring of the roll up computation.

STEP 4: *Close the reports.*

After you have looked at the information that was loaded to your heart's content; close all of the reports by right clicking in the blank area where the names of each window is located. Select "Close All Documents" from the menu that appears. Alternatively, click the "X" in the right hand corner of each window to close each document.



STEP 5: *Load entity comparison.*

Repeat this process for these five different reports for five *different* public companies. (If you forget what to do, simply look at the steps above, but simply use these URLs below for the entity comparison)

<http://www.sec.gov/Archives/edgar/data/858877/000085887717000004/cSCO-20170128.xml>

<http://www.sec.gov/Archives/edgar/data/320193/000162828017000717/aapl-20161231.xml>

<http://www.sec.gov/Archives/edgar/data/789019/000156459017000654/msft-20161231.xml>

<http://www.sec.gov/Archives/edgar/data/880807/000162828017000901/amsc-20161231.xml>

<http://www.sec.gov/Archives/edgar/data/796343/000079634317000031/adbe-20161202.xml>

The loading process will take about the same amount of time as the period comparison. After the loading process has completed, you should see a normalized comparison of the five public companies:

Component: (Network and Table)					
Network	001 - Unknown - General Information				
Table	General Information [Table]				
Unit [Axis]	USD				
	Period [Axis]	Reporting Entity [Axis]			
	2016-07-31/2017-01-28	2016-09-25/2016-12-31	2016-07-01/2016-12-31	2016-04-01/2016-12-31	2015-11-28/2016-12-02
General Information [Line Items]	0000858877 http://www.sec.gov/CIK	0000320193 http://www.sec.gov/CIK	0000789019 http://www.sec.gov/CIK	0000880807 http://www.sec.gov/CIK	0000796343 http://www.sec.gov/CIK
General Information [Hierarchy]					
Entity Registrant Name	CISCO SYSTEMS, INC.	APPLE INC	MICROSOFT CORPORATION	AMERICAN SUPERCONDUCTOR	ADOBE SYSTEMS INC
Entity Central Index Key	0000858877	0000320193	0000789019	0000880807	0000796343
Entity Filer Category	Large Accelerated Filer	Large Accelerated Filer	Large Accelerated Filer	Accelerated Filer	Large Accelerated Filer
Trading Symbol	CSCO	AAPL	MSFT	AMSC	
Fiscal Year End	--07-29	--09-30	--06-30	--03-31	--12-02
Fiscal Year Focus	2017	2017	2017	2016	2016
Fiscal Period Focus	Q2	Q1	Q2	Q3	FY
Document Type	10-Q	10-Q	10-Q	10-Q	10-K
Balance Sheet Date	2017-01-28	2016-12-31	2016-12-31	2016-12-31	2016-12-02

Again, the roll ups of all the statements including the balance sheet, income statement, statement of comprehensive income, and cash flow statement are all working as expected. Here is the balance sheet normalized comparison:

Component: (Network and Table)					
Network	101 - Unknown - Balance Sheet, Classified				
Table	Balance Sheet, Classified [Table]				
Unit [Axis]	USD				
	Period [Axis]	Reporting Entity [Axis]			
	2017-01-28	2016-12-31	2016-12-31	2016-12-31	2016-12-02
Balance Sheet [Line Items]	0000858877 http://www.sec.gov/CIK	0000320193 http://www.sec.gov/CIK	0000789019 http://www.sec.gov/CIK	0000880807 http://www.sec.gov/CIK	0000796343 http://www.sec.gov/CIK
Assets [Roll Up]					
Current Assets	83,392,000,000	103,332,000,000	144,949,000,000	64,240,000,000	5,839,774,000
Noncurrent Assets	42,856,000,000	227,809,000,000	79,661,000,000	45,881,000,000	6,867,340,000
Assets	126,248,000,000	331,141,000,000	224,610,000,000	110,241,000,000	12,707,114,000
Liabilities and Equity [Roll Up]					
Liabilities [Roll Up]					
Current Liabilities	22,708,000,000	84,130,000,000	70,787,000,000	38,354,000,000	2,811,635,000
Noncurrent Liabilities	39,722,000,000	114,621,000,000	85,014,000,000	8,084,000,000	2,470,644,000
Liabilities	62,430,000,000	198,751,000,000	155,801,000,000	46,448,000,000	5,282,279,000
Commitments and Contingencies					
Temporary Equity	0	0	0	0	0
Equity [Roll Up]					
Equity Attributable to Parent	63,811,000,000	132,390,000,000	68,809,000,000	63,793,000,000	7,424,835,000
Equity Attributable to Noncontrolling Interest	7,000,000,000	0	0	0	0
Equity	63,818,000,000	132,390,000,000	68,809,000,000	63,793,000,000	7,424,835,000
Liabilities and Equity	126,248,000,000	331,141,000,000	224,610,000,000	110,241,000,000	12,707,114,000

Here is the income statement normalized comparison:

Component: (Network and Table)					
Network	201.7 - Unknown - Income Statement, Multi Step, With Operating Income, Special 6				
Table	Income Statement, Single Step [Table]				
Unit [Axis]	USD				
	Period [Axis]	Reporting Entity [Axis]			
	2016-07-31/2017-01-28	2016-09-25/2016-12-31	2016-07-01/2016-12-31	2016-04-01/2016-12-31	2015-11-28/2016-12-02
Income Statement [Line Items]	0000858877 http://www.sec.gov/CIK	0000320193 http://www.sec.gov/CIK	0000789019 http://www.sec.gov/CIK	0000880807 http://www.sec.gov/CIK	0000796343 http://www.sec.gov/CIK
Net Income (Loss) [Roll Up]					
Income (Loss) from Continuing Operations After Tax					
Income (Loss) from Continuing Operations Before Tax					
Operating Income (Loss) [Roll Up]					
Revenues	23,932,000,000	78,351,000,000	44,543,000,000	59,000,000	5,854,430,000
Cost of Revenue	8,772,000,000	48,175,000,000	17,745,000,000	50,992,000,000	819,908,000
Gross Profit	15,160,000,000	30,176,000,000	26,798,000,000	8,008,000,000	5,034,522,000
Operating Expenses	9,390,000,000	6,817,000,000	15,396,000,000	28,562,000,000	3,540,920,000
Operating Income (Loss)	5,770,000,000	23,359,000,000	11,402,000,000	(20,554,000,000)	1,493,602,000
Nonoperating Income (Loss) Plus Interest and Debt Expense	146,000,000	821,000,000	286,000,000	1,142,000,000	(58,464,000)
Plus Income (Loss) from Equity Method Investments					
Income (Loss) from Continuing Operations Before Tax	5,916,000,000	24,180,000,000	11,688,000,000	(19,412,000,000)	1,435,138,000
Income Tax Expense (Benefit)	1,246,000,000	6,289,000,000	1,798,000,000	1,036,000,000	266,356,000
Income (Loss) from Continuing Operations After Tax	4,670,000,000	17,891,000,000	9,890,000,000	(20,448,000,000)	1,168,782,000
Income (Loss) from Discontinued Operations, Net of Tax	0	0	0	0	0
Extraordinary Items of Income (Expense), Net of Tax	0	0	0	0	0
Net Income (Loss)	4,670,000,000	17,891,000,000	9,890,000,000	(20,448,000,000)	1,168,782,000

NEXT we would encourage you to watch the following videos in order to get an idea of how to move around in the Pesseract application and perform other tasks:

https://www.youtube.com/playlist?list=PLFjXOVkVNBOrQvn_HBeyAN-hCVRZZMFJh

OR, walk through another guided tour of the different features of Pesseract:

<http://pesseract.azurewebsites.net/help/Help.html#home>

PROBLEMS? Please email Charles.Hoffman@me.com if you need help resolving software installation issues.