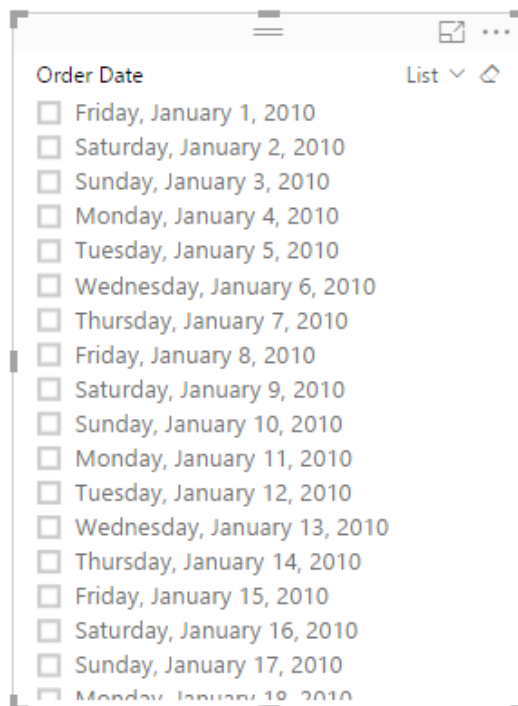


You can also change the mode to **Before** or **After** if you only need to control the last or first date used on your report page:



or switch back to the standard **List** view:

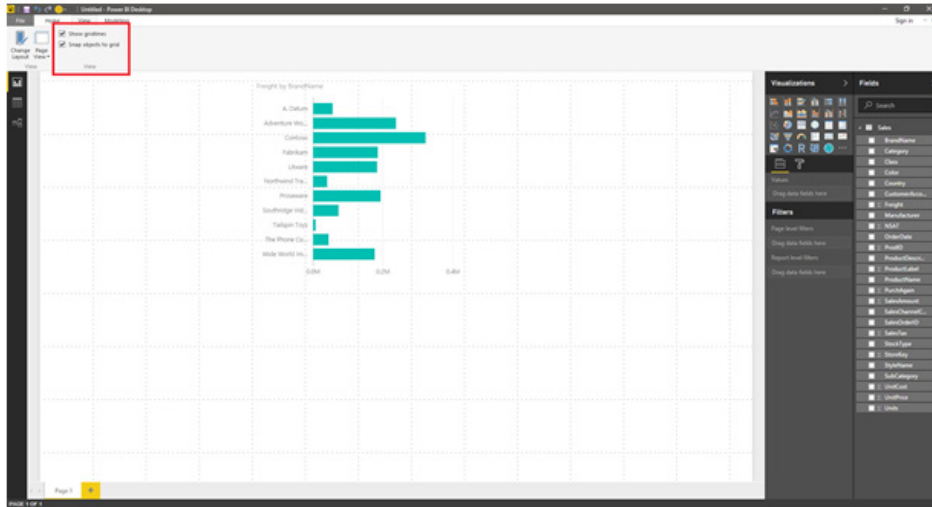


More details about the data slicer may be found [here](#).

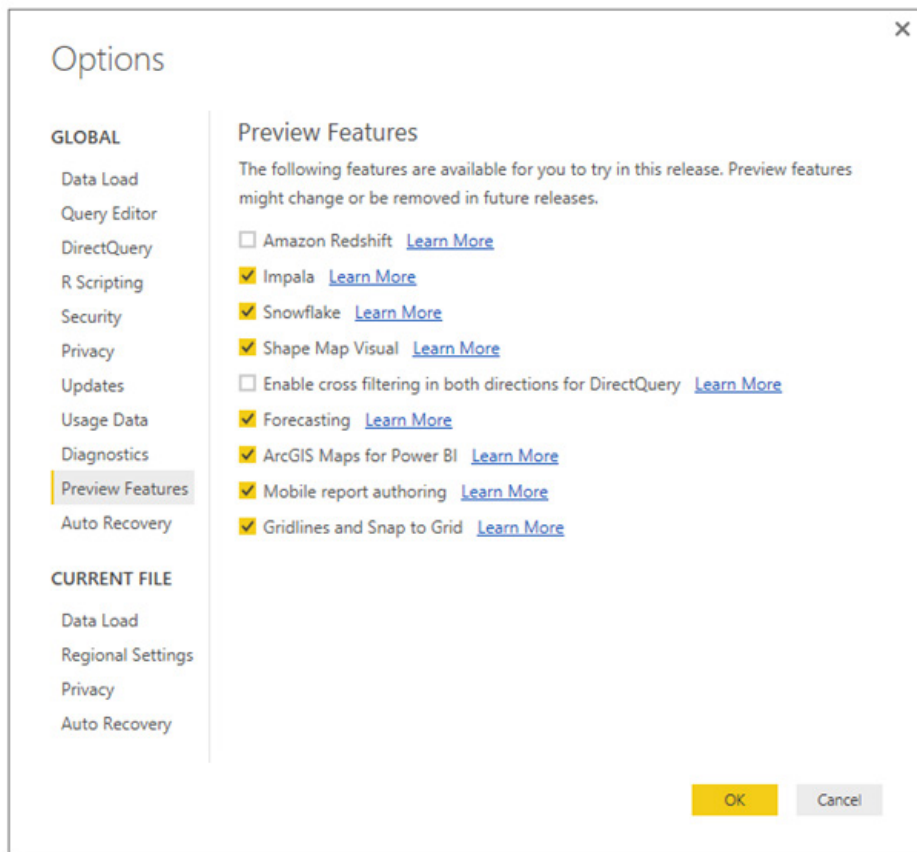
Report gridlines and snap to grid (preview)

A critical task for authoring a professional Power BI report is to make sure your visuals are lined up and look organised. While you could do this in the past by manually entering in **x** and **y** coordinates on each visual or using the arrow keys to nudge visuals into place, anyone who has done this mind-numbing activity knows it is both a time-consuming and thankless task.

It's good then that Microsoft has released a preview of gridlines and snap to grid in Power BI Desktop. This feature will allow you to enable gridlines on your report canvas while authoring, as well as the option to enable snapping to those gridlines.



To enable the preview feature, navigate to **File > Options & Settings > Options > Preview Features**. Check the “Gridlines and Snap to Grid” box and then restart the Desktop.

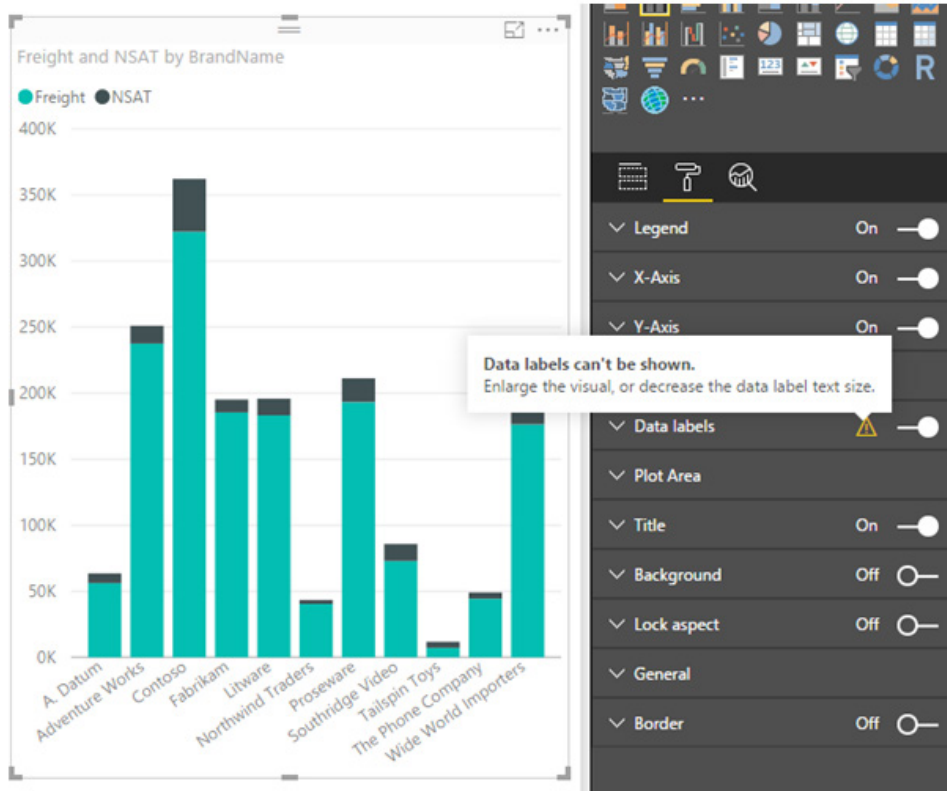


You'll find the gridlines and snap to grid options in the **View** tab of the Ribbon. You can choose to turn on one or both options to help you arrange your charts.

More details about gridlines and snap to grid can be found [here](#).

Data label improvements

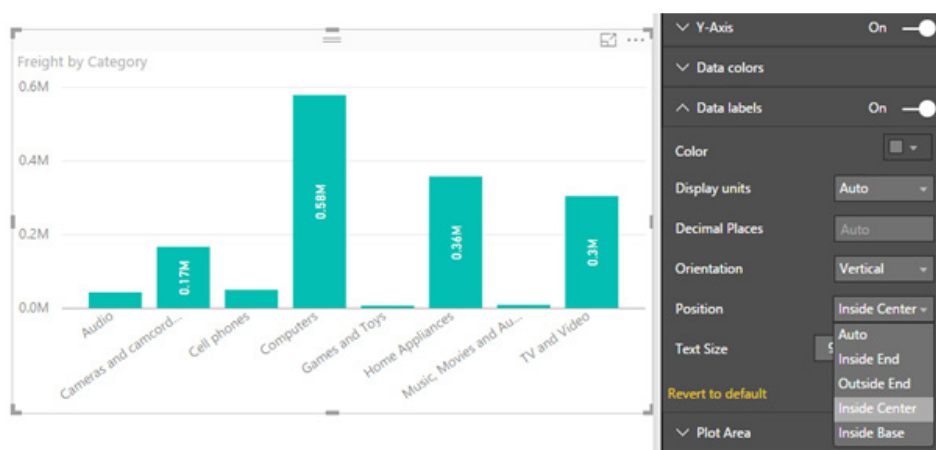
In this release of Power BI Desktop, Microsoft has added several new data label capabilities to column, bar, and waterfall charts to help you design your visuals with labels. For example, if you try to turn on data labels and none show, the software will highlight this immediately and proactively suggest some ways to fix this.



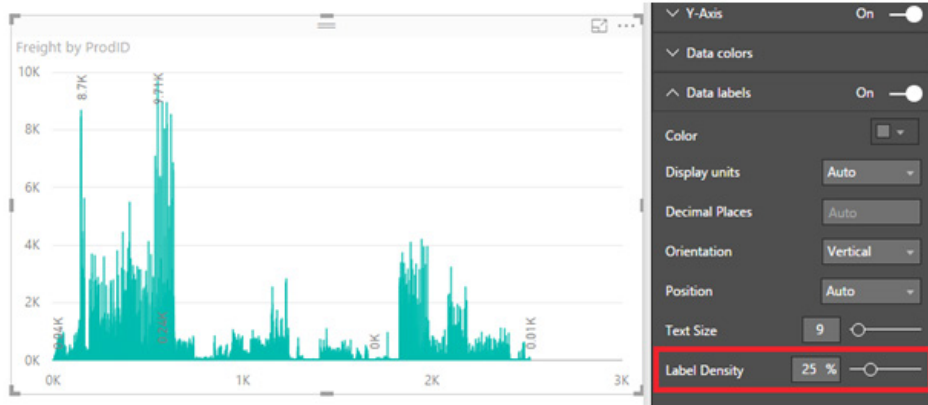
For column charts, you now have the option to change the orientation of your data labels between horizontal and vertical. This will help you fit longer data labels when you have less space for columns.



In addition, for bar, column, and waterfall charts, you can also change the position of the data labels so they will show up at specific locations.



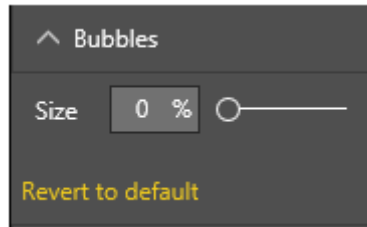
Finally, for bar and column charts that have a continuous axis, you can control how dense the data labels are, so you can show less or more data labels on the visual:



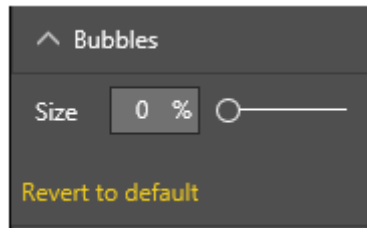
Again, more details about the data label improvements may be found [here](#).

Map formatting options

There are two new formatting options added to the Bing Maps visual to help you customise your maps. Depending on your data, the bubble sizes on the Bing Map control can sometimes end up being very small and hard to see. The latest update adds a new card in the formatting pane on the map visual that allows you to control the size of the bubbles.



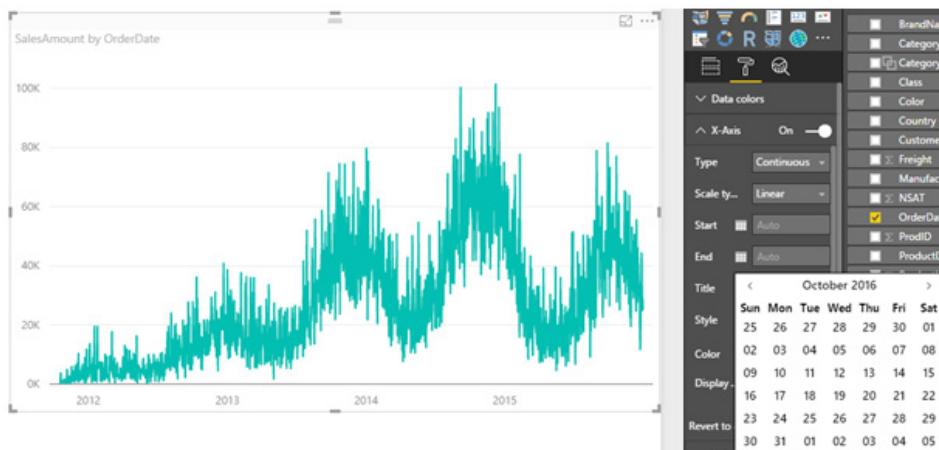
The maps already contain a feature where the zoom level of the map adjusts to show all the data on the map in the best way it can. However, sometimes depending on the data, you might want to specify your own zoom level. The late October update added the capability to disable auto zoom on the map and filled map visuals. This will allow you to set the zoom level and have it stick, even if you are cross-highlighting the data using other visuals or slicers on the report.



More details about the map improvements can be found [here](#).

Improved date axis range formatting

When you have a measure or date on an axis, you can modify the start and end value of the axis in the formatting pane. With this release, the start and end dates of your axis may now be selected by using a date picker. This makes setting your axis range much easier and faster than it was previously. We like simple.



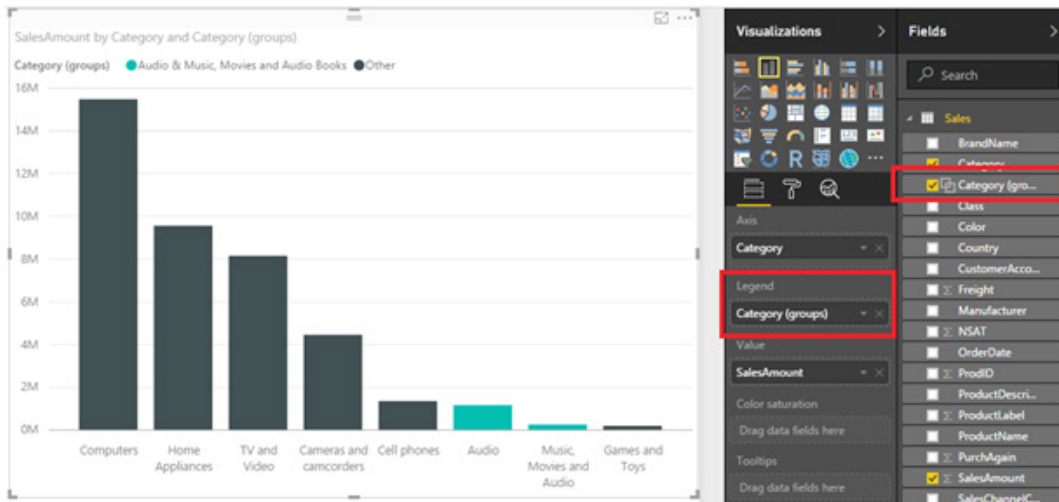
Further details about the data axis range improvement may be found [here](#).

Grouping

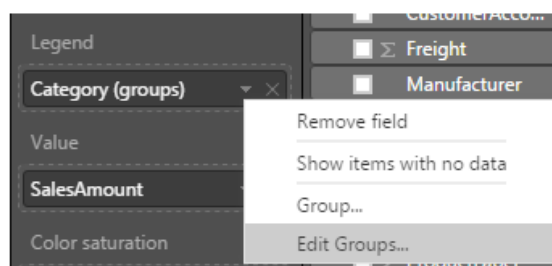
In this release of Power BI Desktop, Microsoft has introduced the ability to group up points on your visual to help you more easily explore and analyse related categories. To use the feature, select one or more points on a visual using **CTRL + CLICK**, right click one of the points, and select **Group** from the context menu:



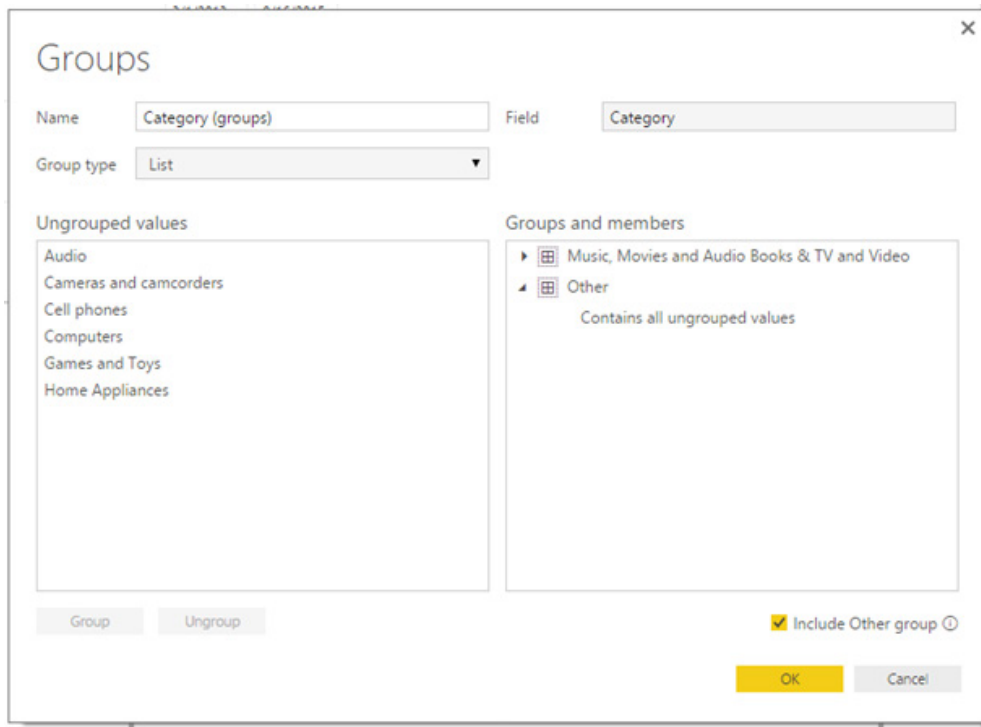
When the group is created, it is automatically added to the legend section of your visual as well as the field list. You can also find the new grouped field in the field list and use this new field just like any other field in visuals, including using it as the axis in charts.



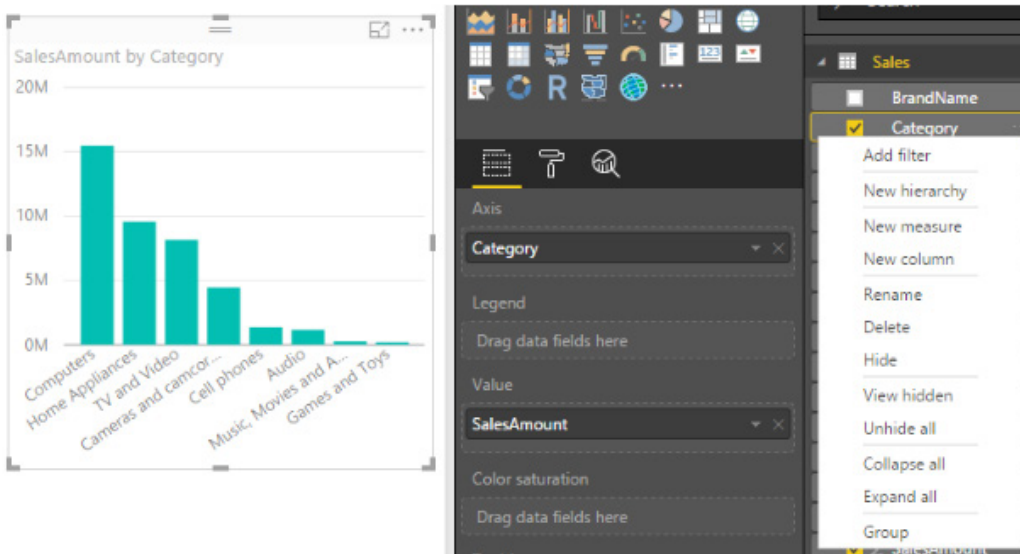
You can edit existing groups by right clicking an already created group and selecting **Edit Groups...** from the context menu:



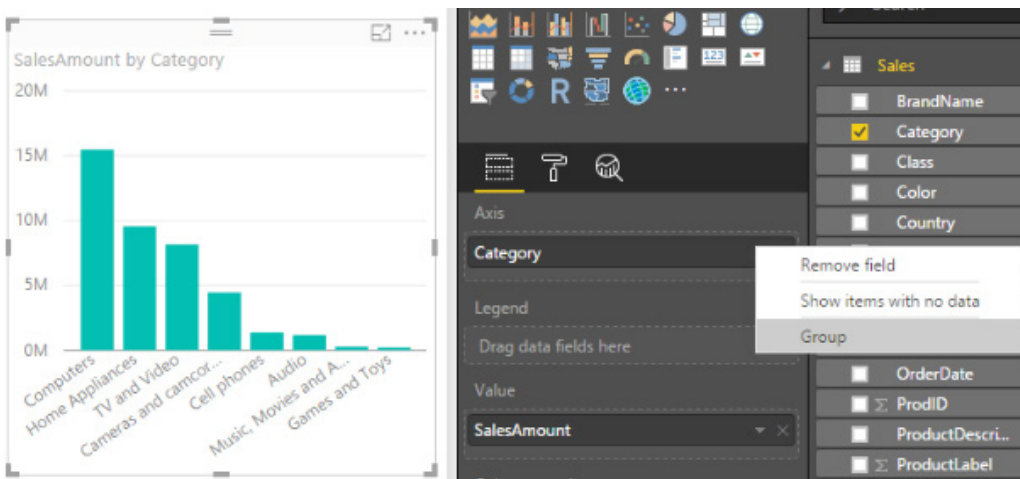
In this dialog, you can create, manage and remove groups. You can also decide whether non-grouped categories should be “bucketed” into another group or if they should remain ungrouped.



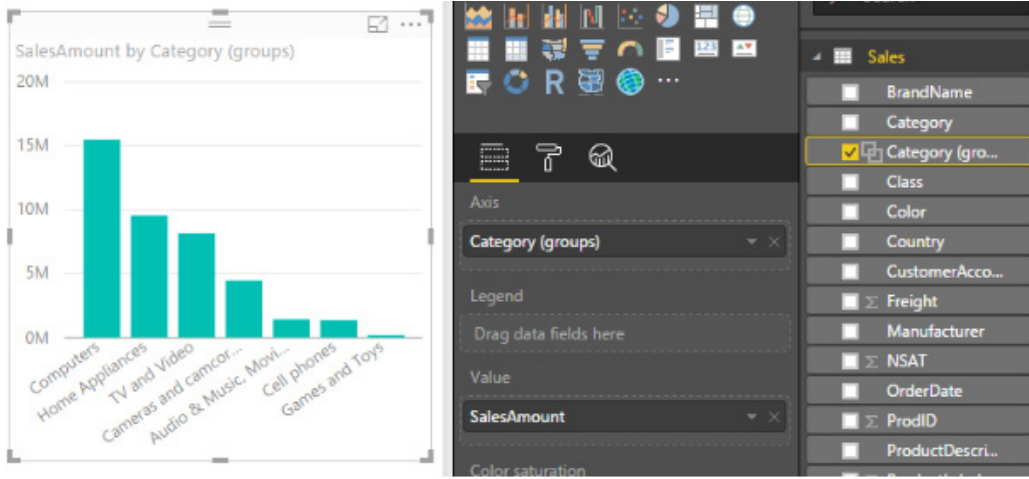
You can also create a new group from scratch using the right click menu and selecting **Group...**



You can also now create a group from the Field Well:



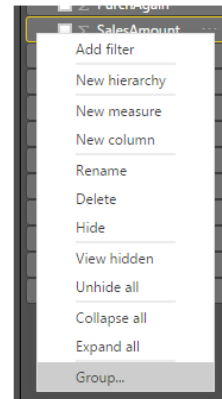
When you do this, it replaces the field in the axis with the new group:



More details about grouping may be found [here](#).

Binning

In addition to grouping categories together, you can also now use binning on numerical and time fields. For example, if you have a **SalesAmount** field in your data and you want to see the user satisfaction across different sale sizes, you can use binning to create these sale size groups. You can access binning by right clicking on the field and clicking **Group...**



In the dialog, you can define the bin size:

Groups

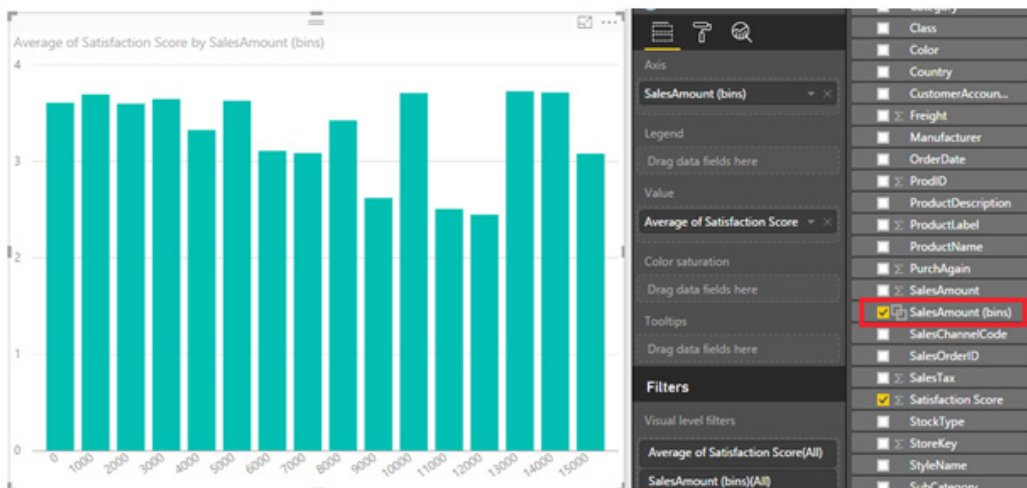
Name: Field:

Group type:

Binning splits numeric or date time data into equally sized groups. Enter bin size.

Bin size:

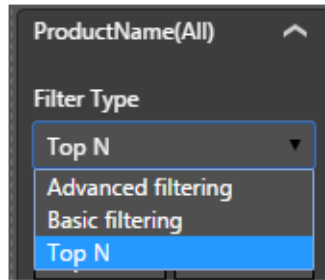
When done, it's automatically added the field list, and you can start using this new grouping in your visuals.



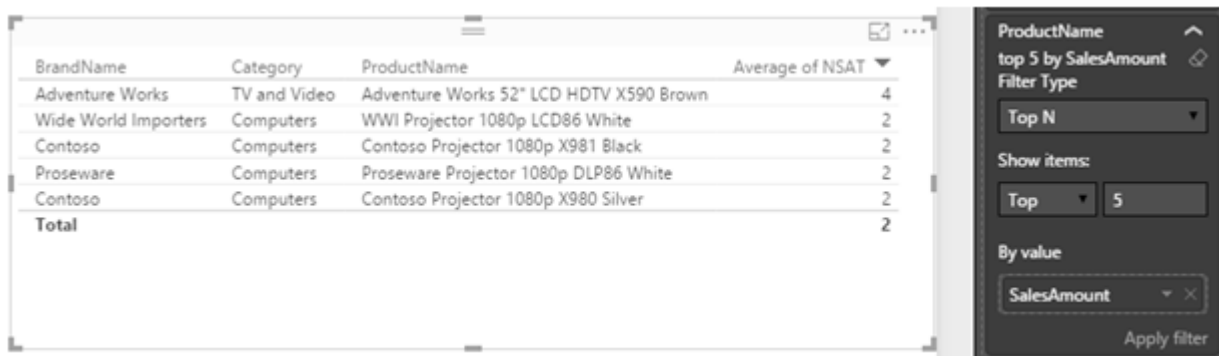
More details about binning are available [here](#).

Top N filter

When analysing a dataset, you often want to look at categorical data and understand which are your best categories and which are your worst. With this release, a new filter type called "Top N" has been added for categorical filters:



You can specify that you'd like to filter by the Top or Bottom number of categories, sorted by a specific measure. You will find the Top N filter in the filter pane as a Filter Type option for the category field you want to filter down. You add the measure you want to filter with by dragging it into the **By value** bucket:

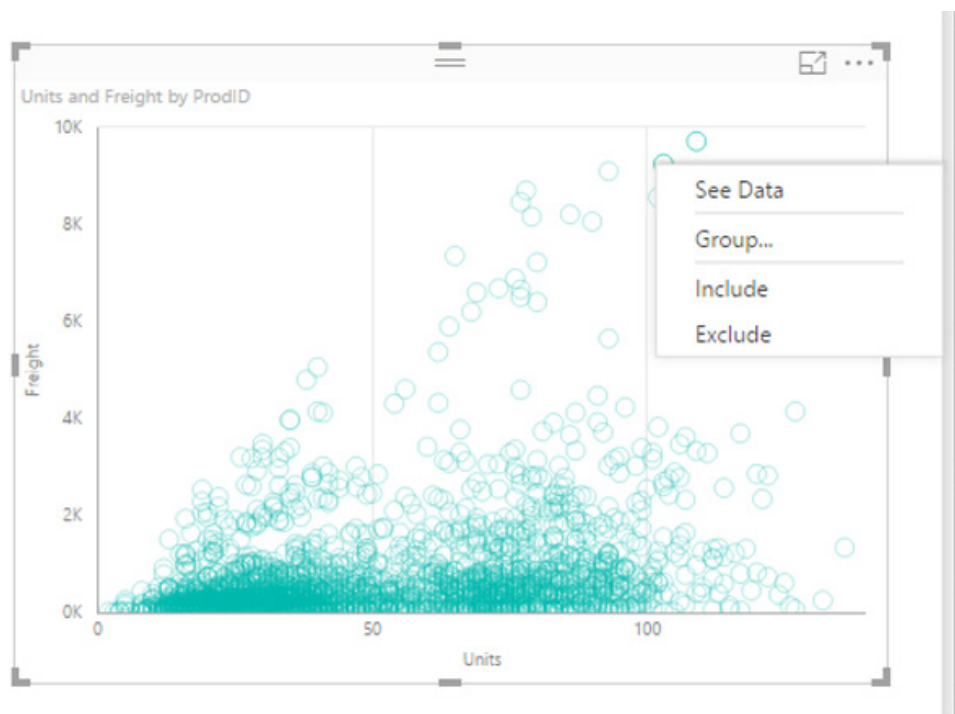


Yet again, more details about top N are available [here](#).

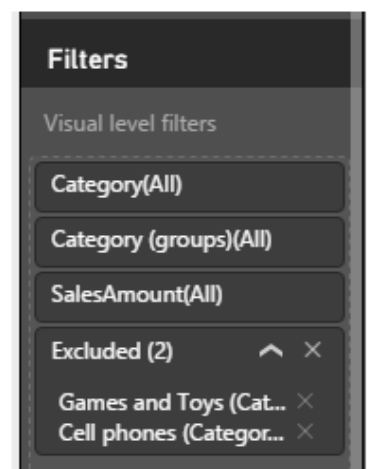
Include / exclude data points

When exploring your data, it's often useful to focus on a specific set of points such as outliers that you'd like to investigate further. In addition, you may want to remove specific points because you simply don't want to focus on them. You can now select one or more points and right click to include or exclude points in your visual.

Include will filter out all points except for those you've chosen to include. Exclude will filter out the points you've chosen to exclude. It's not rocket science!



In the filter pane, you'll see how many points have been excluded or included. When you expand the filter card, you'll be able to see which points those were and can remove them from the filter.



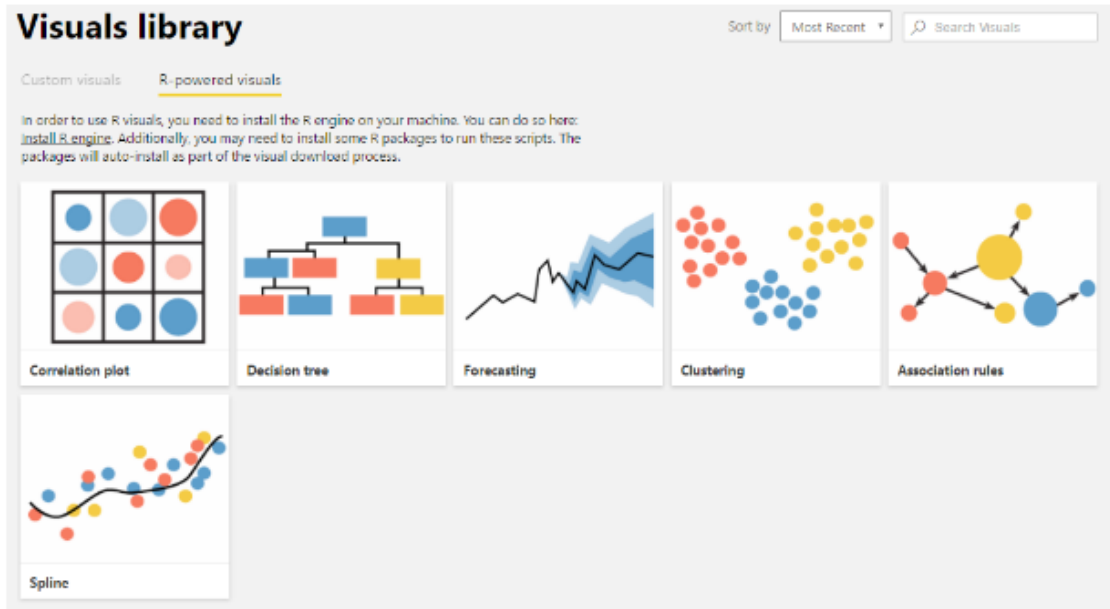
More details about Include and Exclude are available [here](#).

Include / exclude data points

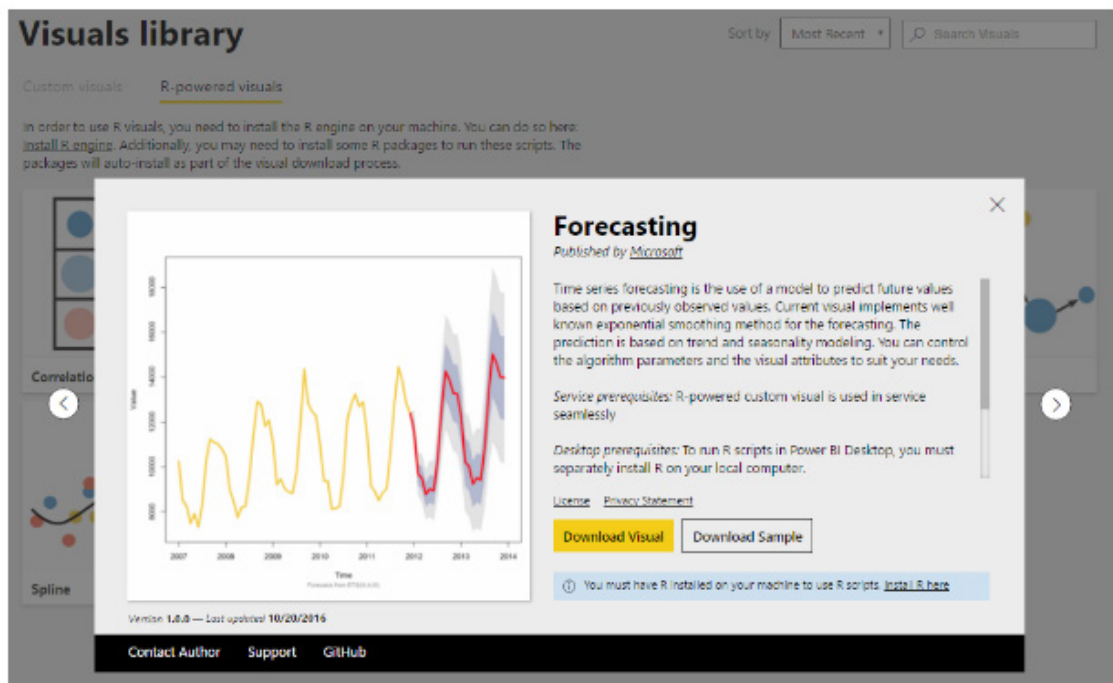
Power BI's R visuals integration adds advanced analytical depth and endless visualization flexibility to your Power BI reports. These reports can then be viewed by all business users on the Power BI web service, not just R experts. However, it still requires expertise in writing R scripts to create these reports.

Not any more.

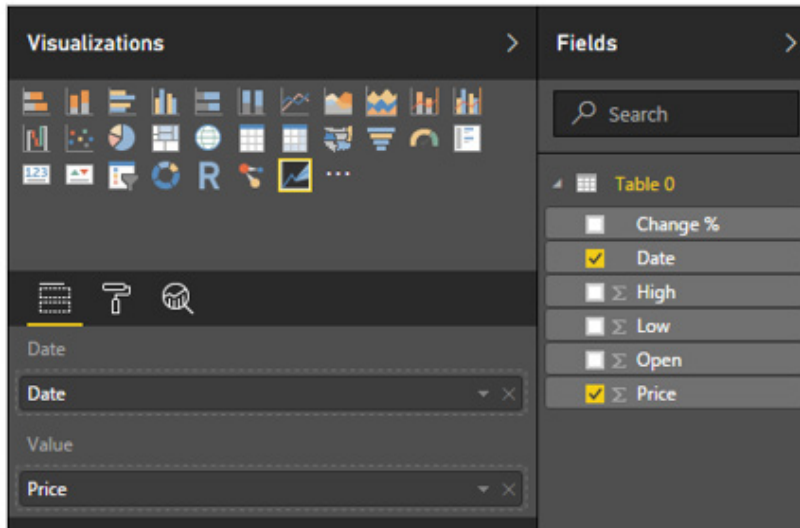
With this release, Microsoft has simplified the custom visual experience to work with R visuals. Now, you can simply download a pre-built R-powered custom visual from the custom visual's gallery instead of having to build it yourself. R-powered custom visuals may be downloaded from <http://app.powerbi.com/visuals> under the **R-powered visuals** tab.



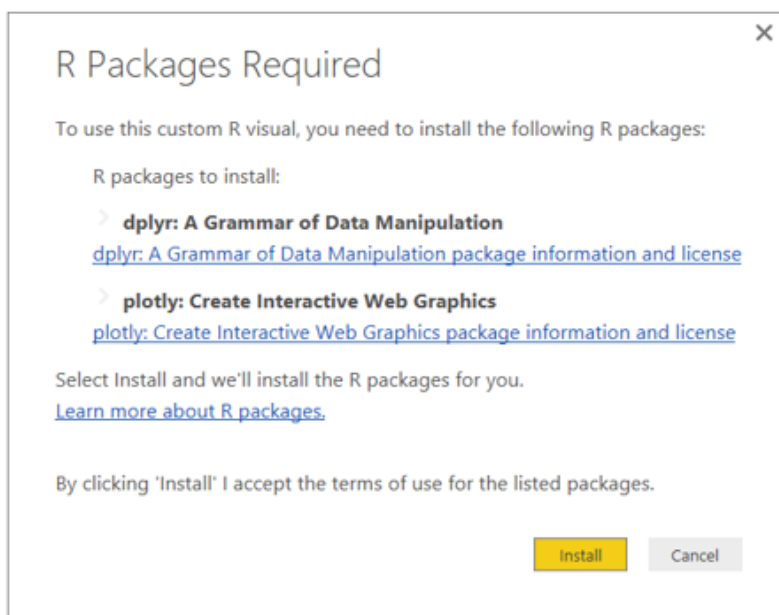
When you select a visual in the custom visuals gallery, you can download the visual or a sample **.pbix** file using the visual:



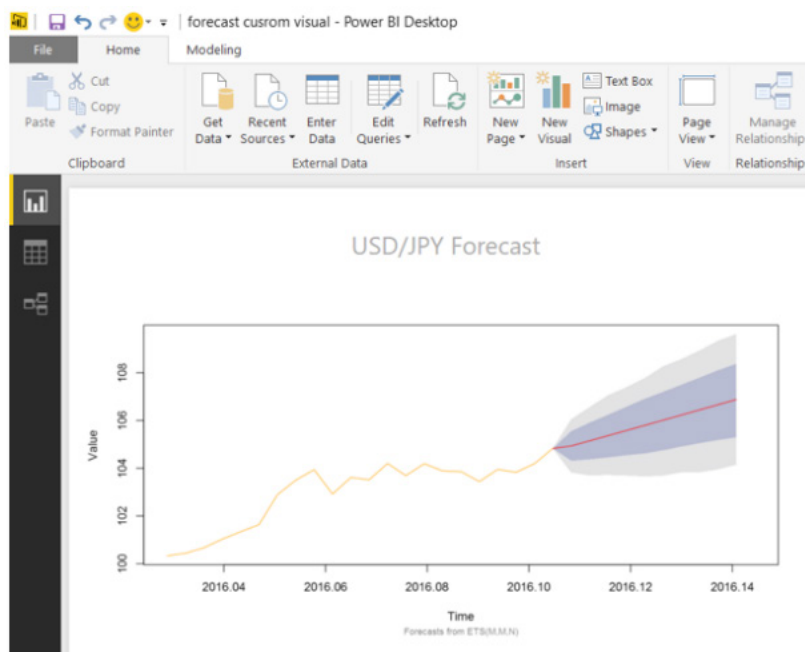
Once you have downloaded the visual you want to use to your computer, you can load it into the Desktop using the normal custom visual import experience:



If the visual needs special R packages, the Desktop will prompt you to install them:



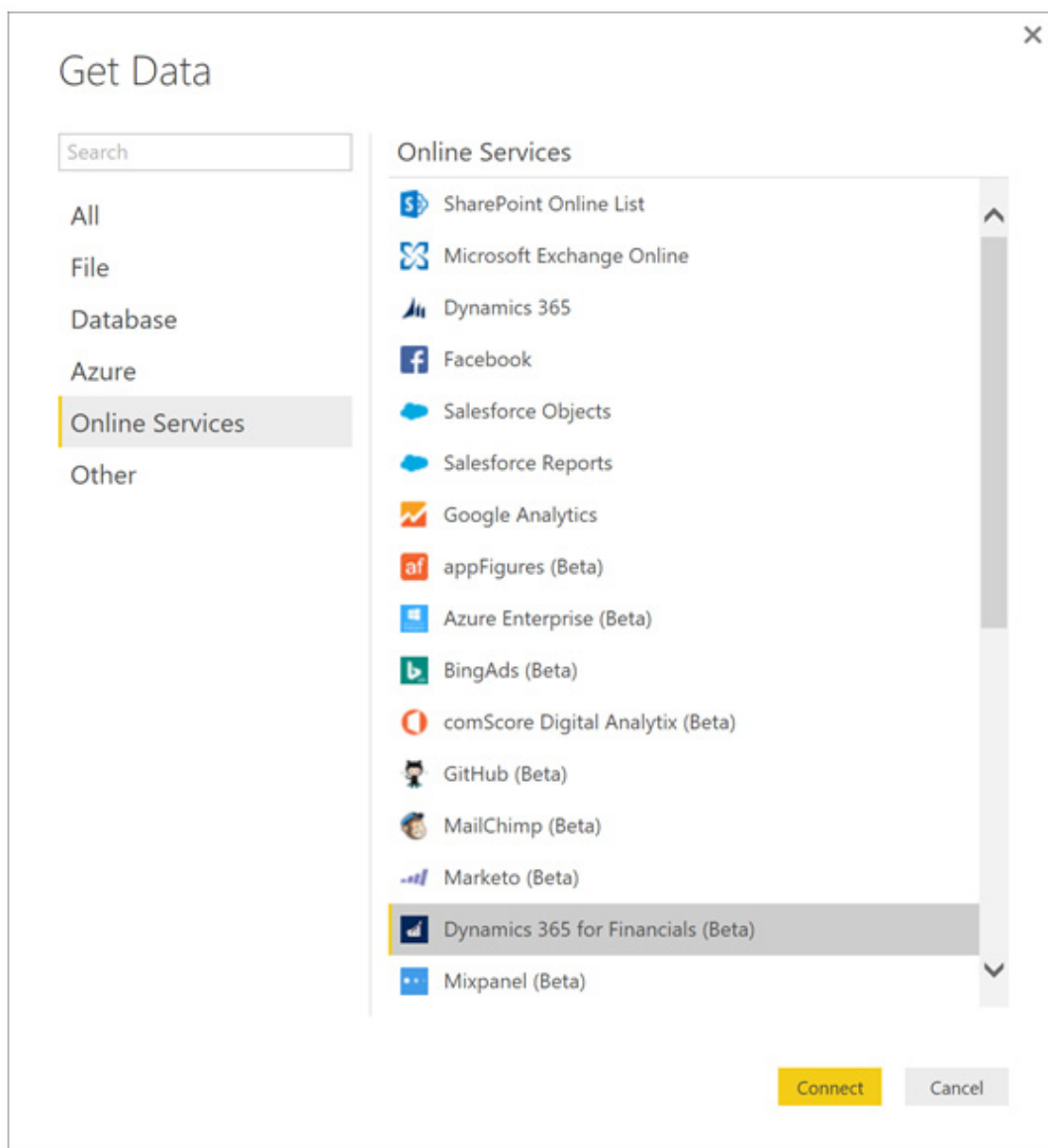
From here, you can use it just like a normal visual to do advanced analytics on your data. Once your report is completed, you can publish and share it out with your colleagues:



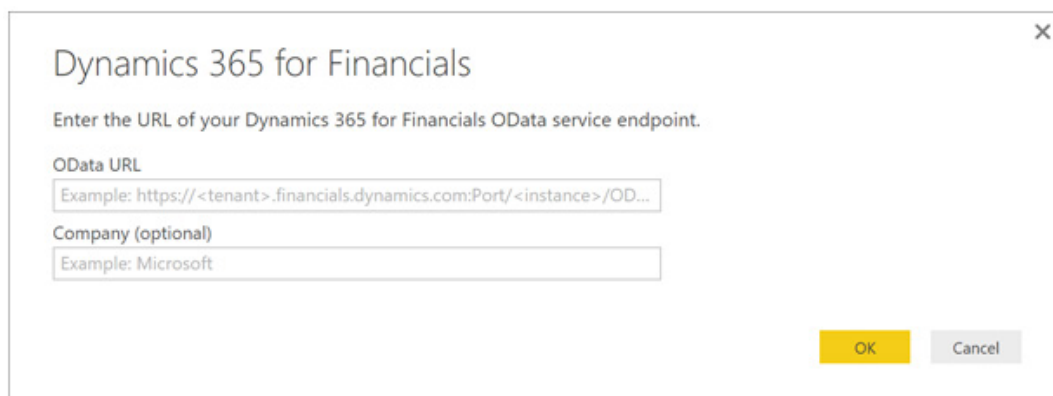
Note that to use R visuals in the Power BI Desktop, you will need to install one of two R engines, either **CRAN 3.3.1** or **MRO 3.3.1**. You won't need to install anything to use them in the Power BI web service.

Microsoft Dynamics 365 for Financials

One of the new connectors in this update allows you to import data from a Dynamics 365 for Financials accounts. Should you have such an account, the connector can be found under the "Online Services" category:

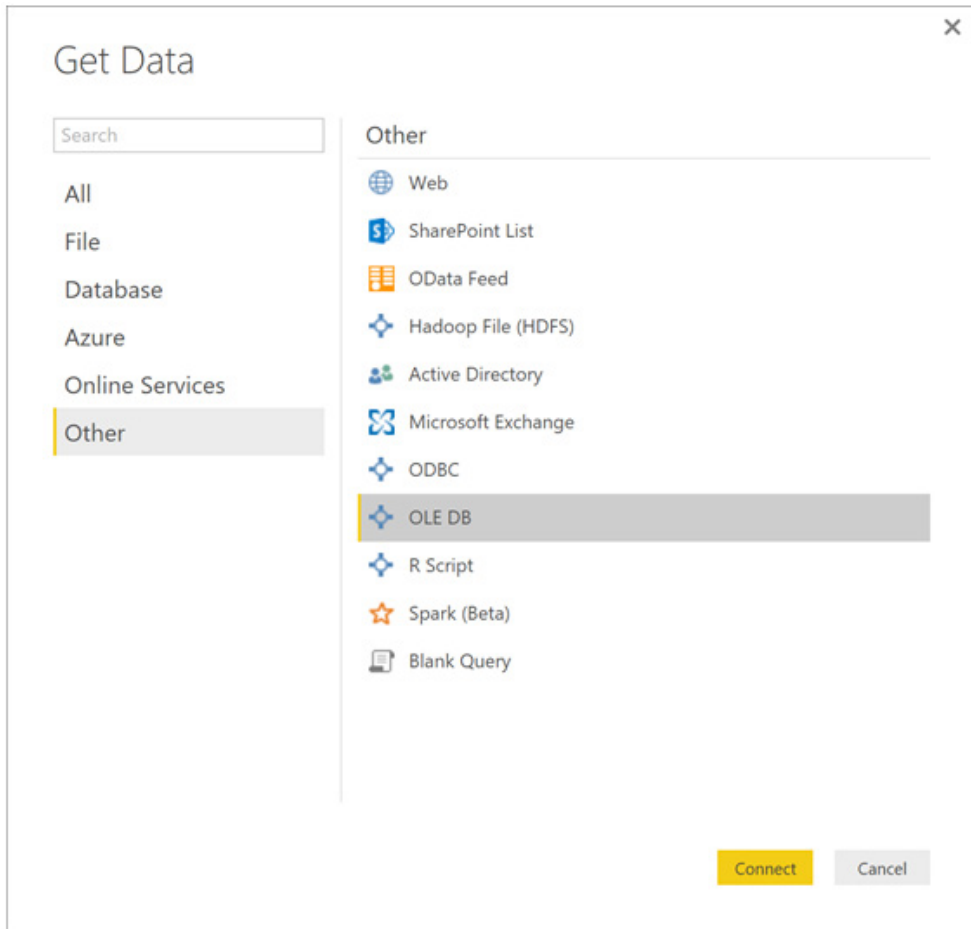


Once you select this connector, you can specify an OData URL and, optionally, a Company to navigate to available data:

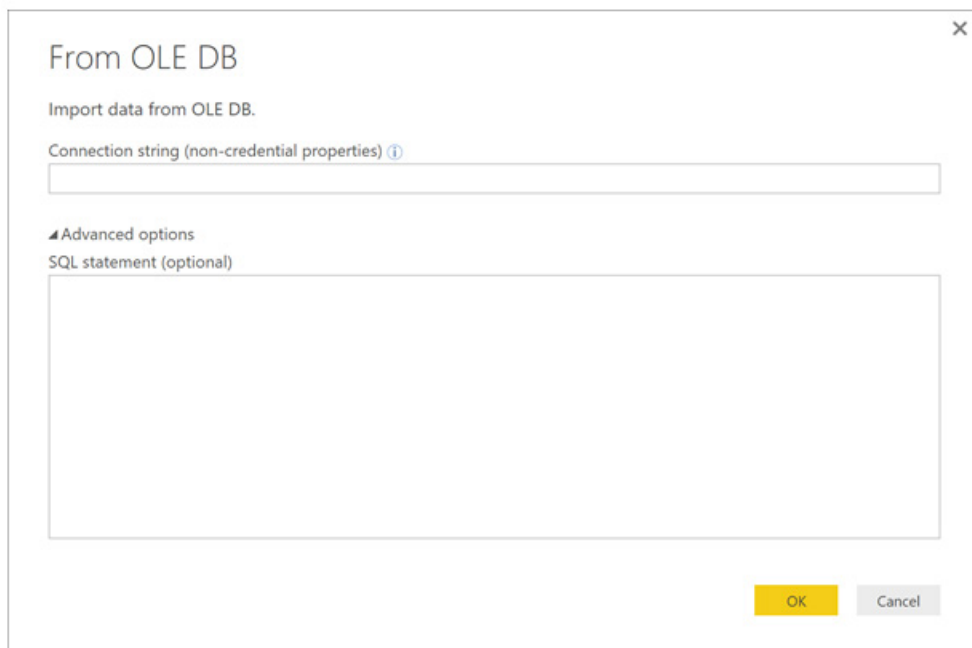


OLEDB

This update also enables connectivity to OLEDB drivers via the new OLEDB connector. In addition to the wide range of out-of-the-box sources already supported, OLEDB greatly increases the number of sources that can be plugged into Power BI. The new OLEDB connector can be found under the “Other” category within the “Get Data” dialog:



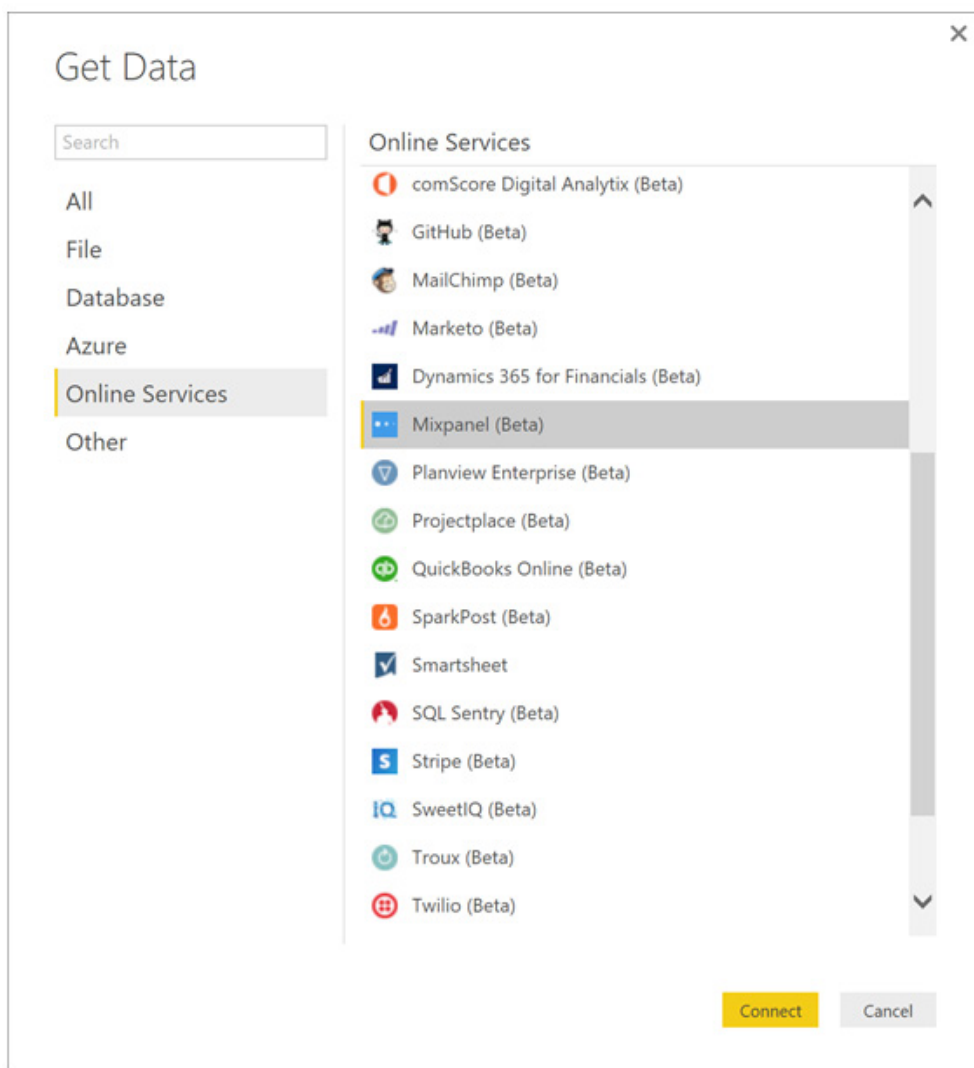
The connector dialog allows you to specify a connection string and, optionally, a SQL statement to execute. If no SQL statement is specified, you will be taken into the Navigator dialog, where you can browse and select one or multiple tables available via the OLEDB driver.



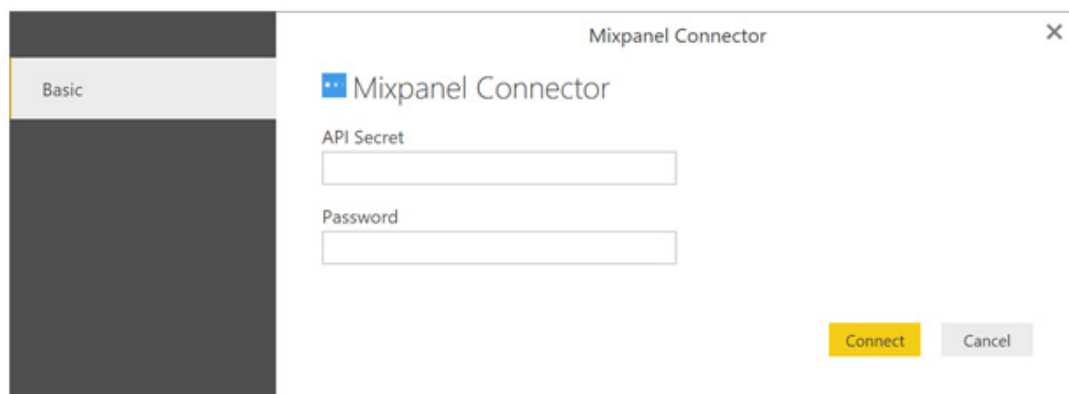
Once this connector is selected, you can specify credentials to use for authentication. Both Organizational Account and Basic (username/password) credential types are supported.

Mixpanel

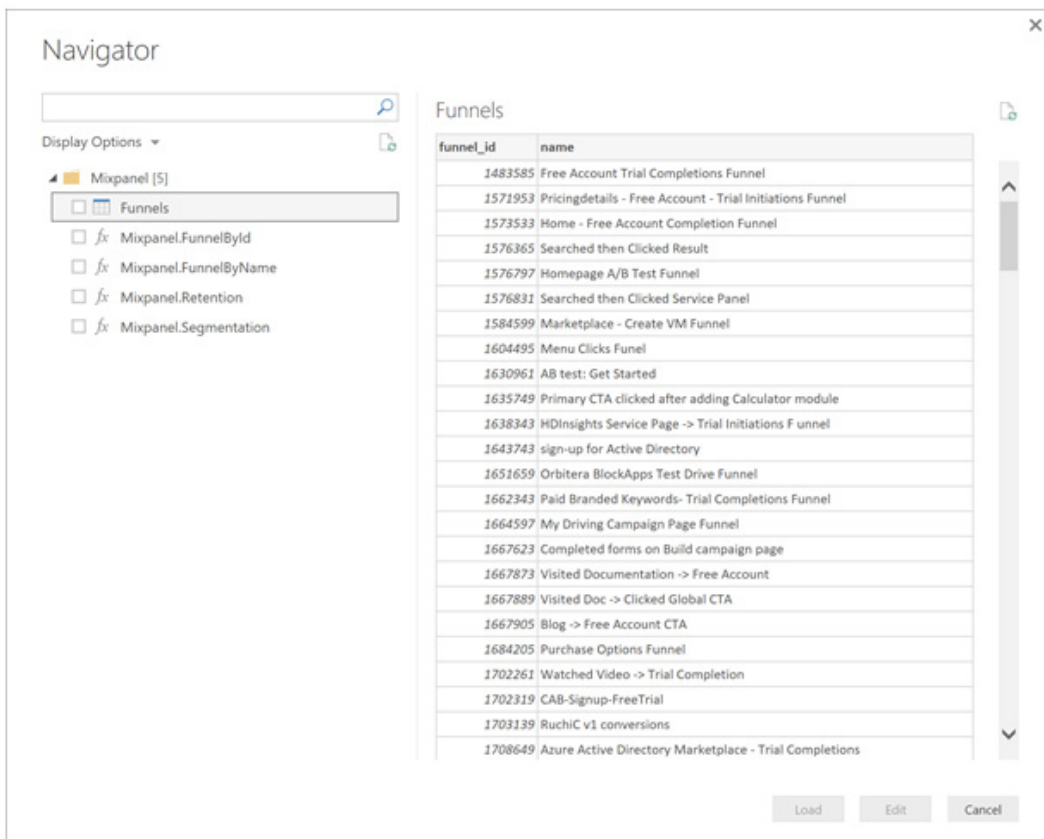
There is a new connector for Mixpanel, apparently one of the leading product analytics platforms available. This new connector allows users to pull mobile and web analytics data from their Mixpanel accounts, in order to visualize it and create reports within Power BI. The new Mixpanel connector can be found under the "Online Services" category in the "Get Data" dialog:



Once you select this connector, you can specify credentials (API Secret & Password) to use for authentication:



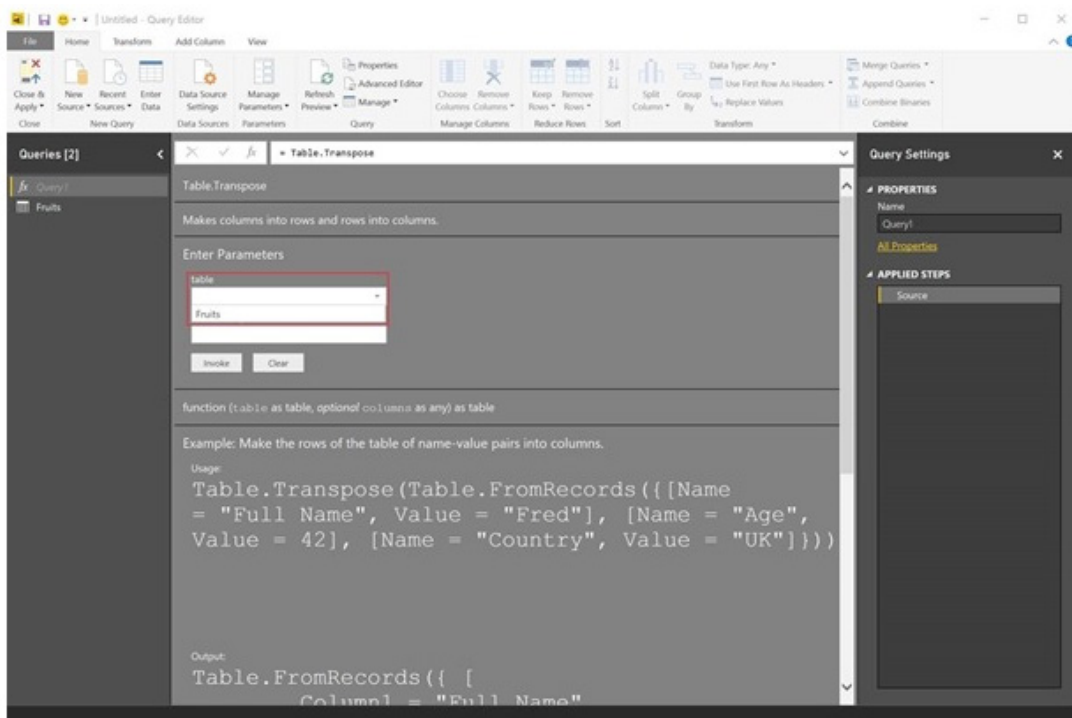
This allows you to browse available data in your accounts, in the form of tables or parameterised functions, that can be brought into Power BI.



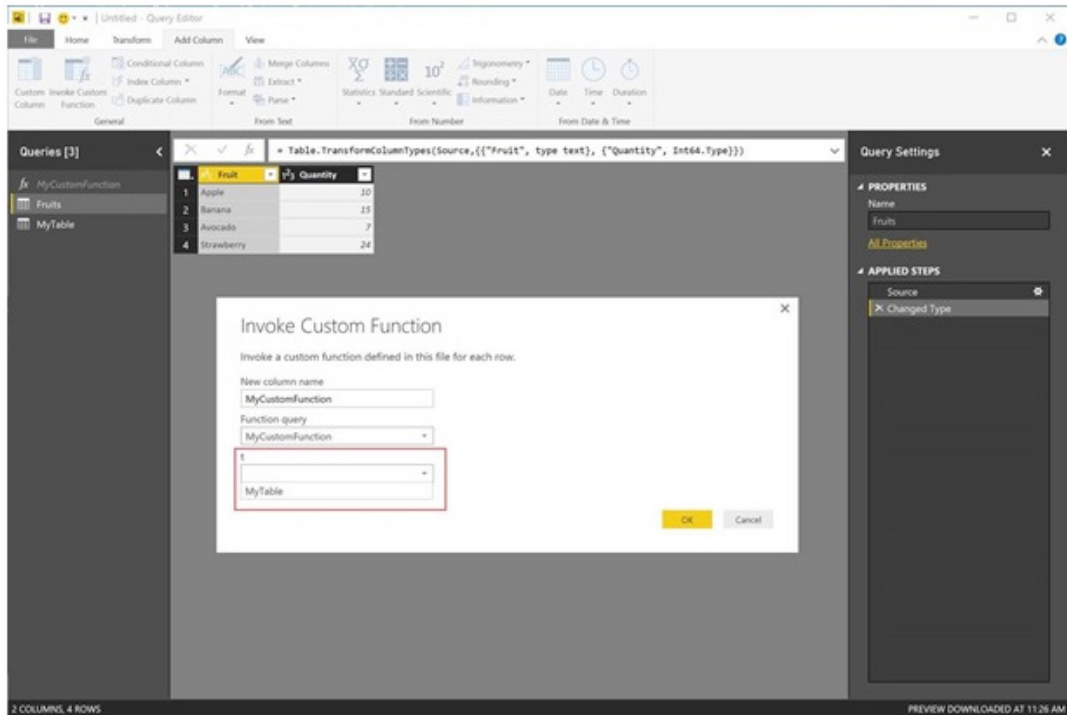
More details about the new data connectors are available [here](#).

Support for table parameters in "Invoke Function" dialog

This update also enhances the "Invoke Function" experience to support parameters of type "Table". When invoking a function that accepts a table parameter, either a built-in or user-defined function, you will be able to select an existing table query as the input value to the function. The following screenshot shows the "Invoke Function" experience for a built-in function, such as **Table.Transpose**:



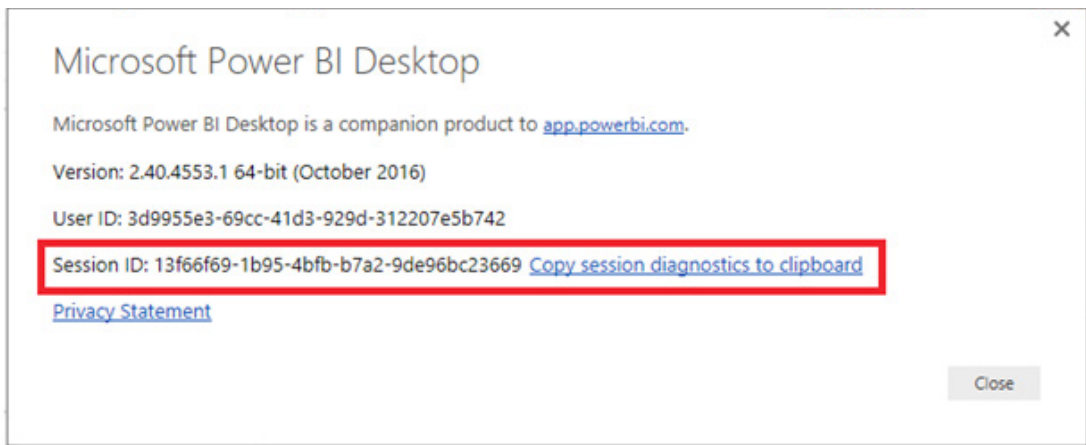
This capability is also supported in the "Invoke Custom Function" dialog, allowing you to reference table queries when invoking their own defined functions.



More details about table parameters supported in the Invoke Function dialog can be found [here](#).

Diagnostic information in the “About” dialog

You can now easily copy your session ID and diagnostic info to your clipboard. You can find this diagnostic information under **File > Help > About**. This is very useful if you require the assistance of Microsoft’s support team.



More details about the improved diagnostic information are available [here](#).

Well Tolstoy would have been proud of that “little list”. If you are a regular user of Power BI, do remember that you can all still vote for other features that you would like to see in the Power BI Desktop by visiting www.powerbi.com. And if you are not an experienced user but would like to find out more (including venturing on a training course) feel free to drop us a line at contact@sumproduct.com.

The A to Z of Excel Functions: ARABIC

Now this is more like it. We finally get to one of those useful Excel functions you simply cannot live without. The **ARABIC** function converts a Roman numeral to an Arabic numeral (that means “number” in English).

The **ARABIC** function employs the following syntax to operate:

ARABIC(text)

- **text**: this is a string enclosed in quotations marks or a reference to a cell containing text. An example of an empty string is (“”).

Please note:

- If **Text** is not valid, **ARABIC** will return an #*VALUE!* error value
- Any value returned as #*VALUE!* error value includes numbers, date and text that is not a valid Roman numeral

- If an empty **string** is used as an input value, a value of 0 (zero) will be returned
- The largest number that can be returned is 255,000, allowing the maximum length of the argument to be 255 characters
- When the text argument is ignored. **MXMVII** evaluates to the same result (1997) as “**MXMVII**”
- Although a negative Roman number is non-standard, evaluation of a negative Roman numeral is supported, provided it is entered as a text string. Insert the negative sign before the Roman text, such as “**-MMXI**”
- Leading and trailing spaces are ignored in the syntax
- The **ARABIC** function performs the opposite action for the **ROMAN** function, albeit it is a little more versatile as **ROMAN** only calculates positive integers no greater than 3,999.

Here are some examples:

	A	B	C	D
1	Roman Numerals	Formula	Result	Description
2	XIV	14	=ARABIC(A2)	14 in Roman numerals
3	MIMI	2000	=ARABIC(A3)	Ex-girlfriend
4	MIMIC	2098	=ARABIC(A4)	Actually, not copied
5	MMM	3000	=ARABIC(A5)	Tasty
6		-30	=ARABIC("-XXX")	Opposite of red hot
7				

The A to Z of Excel Functions: AREAS

When used, the **AREAS** function returns the number of areas in a reference. An area is a range of continuous cells or a single cell. If a range is made up of contiguous cells, the range number is based on the number of separate references (please see the second example below).

We're not 100% sure where you might use this though other than in a newsletter series covering all of Excel's functions...

The **AREAS** function employs the following syntax to operate:

AREAS(reference)

- **reference:** a reference to a cell or range of cells and can refer to multiple areas. If you wish to specify several references as a single argument, then you must include extra set of parentheses so that Microsoft Excel will not interpret the comma as a field separator.

Some examples:

	A	B	C
1	Formula	Result	Notes
2	1	=AREAS(F13:J22)	
3	5	=AREAS((C14,D14,E14,F14,G14))	Multiple ranges must be in additional parentheses
4	1	=AREAS(C11:C18 B14:D14)	Space is the intersect operator, common range
5	#NULL!	=AREAS(E13:G13 F15:F20)	Space is the intersect operator, no common cells
6	4	=AREAS(Example_Range)	Example_Range is {E11:E21,F14:G14,H15:H16,I18:J21}
7			

The A to Z of Excel Functions: ASC

For double-byte character set (DBCS) languages, the **ASC** function changes full-width (double-byte) characters (katakana) to half-width (single-byte) characters.

The **ASC** function employs the following syntax to operate:

ASC(text)

The **ASC** function has the following argument only:

- **text:** this is required. The text or a reference to a cell that contains the text you want to change. If **text** does not contain any full-width letters, **text** is not changed.

The opposite function, converting half-width (single-byte) characters to full-width (double-byte) characters (katakana), is the **WIDECHAR(text)** function. Our regular blog series will probably get to this function about 14 years from now ☺

Some ideas:

=ASC("SumProduct") equals "SumProduct"

=ASC("エグゼセル") equals "エグゼセル"

=ASC("E X C E L ") equals "EXCEL"

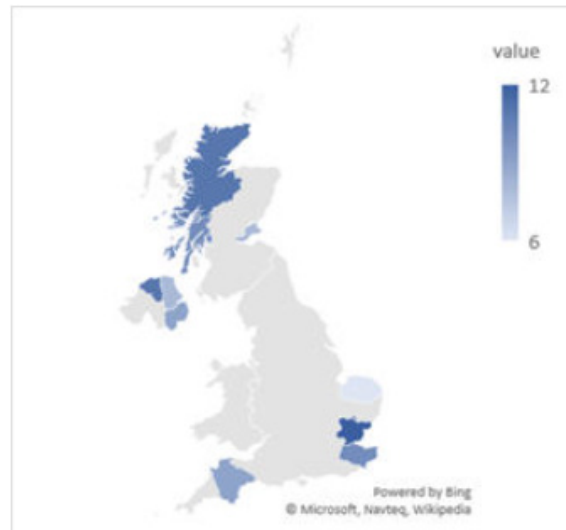
November Updates for Excel 2016

November sees some new and improved features for Excel 2016. You might not see them straight away – it will depend upon what version of Excel 2016 you have. Presently, the following feature updates are available to Office 365 subscribers only. Firstly, they will first roll out to Office Insider participants, and later to consumer and commercial Office 365 subscribers. If you have an Office 365 subscription, you still need to make sure you have the latest version of Office.

The updates include:

- **New map charts**

You can create a map chart to compare values and show categories across geographical regions. This feature may be used when you have geographical regions in your data, like countries / regions, states, provinces, counties or postal codes.



- **New icons available on the Insert tab**

That's not all. If you find yourself needing to insert an icon that conveys a certain idea or concept, check out the Icon button on the Insert tab. You can choose a category like people, technology, or sports and then click the icon that represents the idea or concept you have in mind.

- **Quickly save to recent folders**

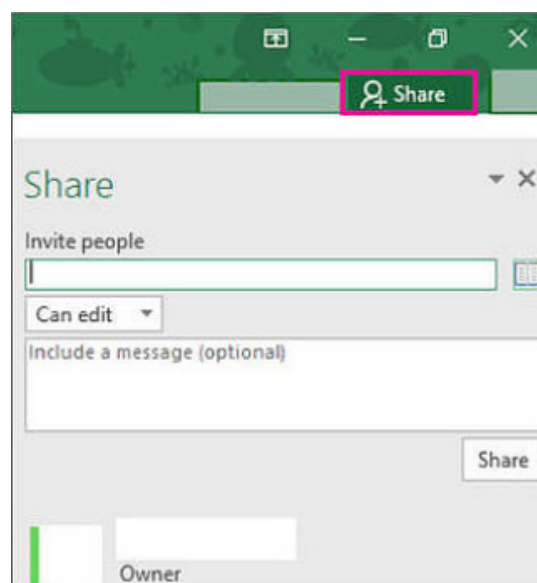
Now this one we do like (and about time too)! This feature has been highly requested: **Go to File > Save As > Recent**, and you'll see a list of recently accessed folders that you can save to. This will save us nearly 30 seconds a day!

- **Accessibility improvements**

Microsoft had also have improved its support for Narrator and other assistive technology that lets you read cells, create tables, sort data and more

- **Share your workbooks with others**

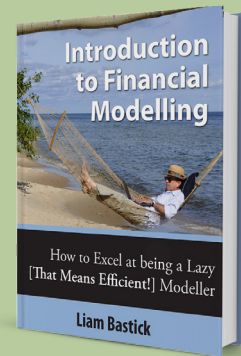
If you are sharing your workbook using OneDrive, OneDrive for Business, or SharePoint, you can do all your sharing without leaving the comforts of Excel. All you have to do is click on the 'Share' button in the top right corner of the Ribbon, send as an attachment and select 'Send a PDF'.



Book Update

We mentioned a while ago that SumProduct author Liam Bastick had a book coming out shortly. Thank you to all those of you who have enquired about it subsequently. It was originally scheduled for a November release but due to circumstances beyond our control, publication has been put back to the new year.

They say every cloud has a silver lining and that's certainly true here. With the unexpected delay, it has given us time to re-write certain areas and add new ideas. The book was originally based on our hugely successful **Financial Modelling** training course and we can promise it will now be even more packed with useful tips and tricks, key layout ideas and stupid jokes. Uh oh, there goes the sales pitch...



November MVP Summit Update



Pictured above: Many of the Excel MVPs as they queued for the toilet.

As long as Liam Bastick remains an Excel Most Valuable Professional (MVP), November means a trip to the hallowed halls of Redmond (Washington State) for five days to go and liaise with the Excel product team about what's coming in the near future and what's on the mid-term horizon. It was especially interesting this year given we think there might have been some sort of election going on...

This year's sessions were particularly fruitful as several MVPs (including Liam) were involved in focus groups to discuss key issues / problems Microsoft were working on. Obviously, most of the discussions are confidential, but some of the time was spent on showcasing what's around the corner for Excel. One such new feature has already been made public – the new chart maps which you can read about elsewhere in this newsletter. We'll break news on other features as we are allowed to do so. Watch this space!



Christmas Quiz Challenge

SumProduct, in conjunction with the Chartered Institute of Management Accountants (CIMA), is pleased to announce the annual Xmas quiz, although we gather it may be renamed this year in order to meet with more universal appeal. It's open to everyone, not just accountants. Check out the Excel challenge – with prizes – in the December issue of CIMA's *Insight* magazine. Unfortunately, due to the deadlines surrounding this newsletter, we cannot provide a URL at this stage. We suggest you check the Blog and News sections of our website (www.sumproduct.com) for full details once the quiz goes "live".

Good luck!

London Activities

Early December sees us in London for client meetings, presentations on Power BI and Excel Tricks & Tips (5 and 6 December) for Microsoft at the Global Training Camp and possibly taking in the finals of ModelOff as well (we're still waiting on our invite there...). Congratulations to last year's winner and fellow Aussie **Joseph Lau** who has made it through to the Final 20 yet again!



If you are in the area (see [here](#) for further details), drop in and say hello. If you'd like to meet up, let us know beforehand by emailing us at contact@sumproduct.com.

Upcoming SumProduct Training Courses

Location	Course	Date	Duration
Sydney	Power Pivot, Power Query and Power BI	12th - 14th Dec 2016	3 days
Sydney	Visual Basic and Excel	15th Dec 2016	1 day
Melbourne	Financial Modelling for Mergers and Acquisitions	6th - 9th Feb 2017	4 days
Sydney	Excel Tips and Tricks	6th Feb 2017	1 day
Sydney	Financial Modelling	7th - 8th Feb 2017	2 days
Melbourne	Power Pivot, Power Query and Power BI	20th - 22nd Feb 2017	3 days
Toronto	Financial Modelling	6th - 7th Mar 2017	2 days
Toronto	Power Pivot, Power Query and Power BI	8th - 10th Mar 2017	3 days
New York	Financial Modelling	13th - 14th Mar 2017	2 days
New York	Power Pivot, Power Query and Power BI	15th - 17th Mar 2017	3 days
Melbourne	Financial Modelling	22nd - 23rd Mar 2017	2 days
Sydney	Power Pivot, Power Query and Power BI	24th - 26th Mar 2017	3 days



Referral Programme

Have you heard about the SumProduct Referral programme? If you successfully introduce us to a client we will pay you 10% of the net profits of the engagement won upon receipt of client payment. Sounds like a pretty good deal to us!

Terms and conditions apply. Referrer must be over 18 years of age, able to issue an invoice and not be an employee, director, agent or other related party of the client engaged. For further information, drop us a line at contact@sumproduct.com. We hope to hear from you!

Key Strokes

Each newsletter, we'd like to introduce you to useful keystrokes you may or may not be aware of. This month we decided we'd continue going through the function keys with the **F4** function key:

Keystroke	What it does
F4 (in spreadsheet)	Redo
F4 (in Edit mode)	Toggle anchoring (\$ references)
ALT + F4	Close application
CTRL + F4	Close window
SHIFT + F4	Find next (from most recent search)
ALT + SHIFT + F4	Close application (again!)
CTRL + ALT + F4	Close application (sensing a theme yet?)
CTRL + SHIFT + F4	Find previous (from most recent search)
CTRL + ALT + SHIFT + F4	Close application (just why do we need so many alternatives?)

There are over 540 keyboard shortcuts in Excel. For a comprehensive list, please download our Excel file a www.sumproduct.com/thought/keyboard-shortcuts. Also, check out our new daily **Excel Tip of the Day** feature on the www.sumproduct.com homepage.

Our Services

We have undertaken a vast array of assignments over the years, including:

- **Business planning**
- **Building three-way integrated financial statement projections**
- **Independent expert reviews**
- **Key driver analysis**
- **Model reviews / audits for internal and external purposes**
- **M&A work**
- **Model scoping**
- **Power BI, Power Query & Power Pivot**
- **Project finance**
- **Real options analysis**
- **Refinancing / restructuring**
- **Strategic modelling**
- **Valuations**
- **Working capital management**

If you require modelling assistance of any kind, please do not hesitate to contact us at contact@sumproduct.com.

Link to Others

These newsletters are not intended to be closely guarded secrets. Please feel free to forward this newsletter to anyone you think might be interested in converting to "the SumProduct way".

If you have received a forwarded newsletter and would like to receive future editions automatically, please subscribe by completing our newsletter registration process found at the foot of any www.sumproduct.com web page.

Any Questions?

If you have any tips, comments or queries for future newsletters, we'd be delighted to hear from you. Please drop us a line at newsletter@sumproduct.com.

Training

SumProduct offers a wide range of training courses, aimed at finance professionals and budding Excel experts. Courses include Excel Tricks & Tips, Financial Modelling 101, Introduction to Forecasting and M&A Modelling.

Check out our more popular courses in our training brochure:



Drop us a line at training@sumproduct.com for a copy of the brochure or download it directly from <http://www.sumproduct.com/training>.

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