



PowerPivot

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Perpetual Technologies



Me and the family

Who Am I?

- ❑ Microsoft Team Lead
- ❑ SQL Server DBA
- ❑ (MCITP: Database Administration in 2005 and 2008)
- ❑ In IT industry for 10 years. DBA for 5 years. I've been with PTI for 3 years.
- ❑ Worked for various industries such as large insurance companies, government entities, large and small corporations, hospitals and medical related businesses and on and on

Agenda

- What is PowerPivot
- How does it work?
- What can it do?
- What does it take to get it going?

What is this PowerPivot?

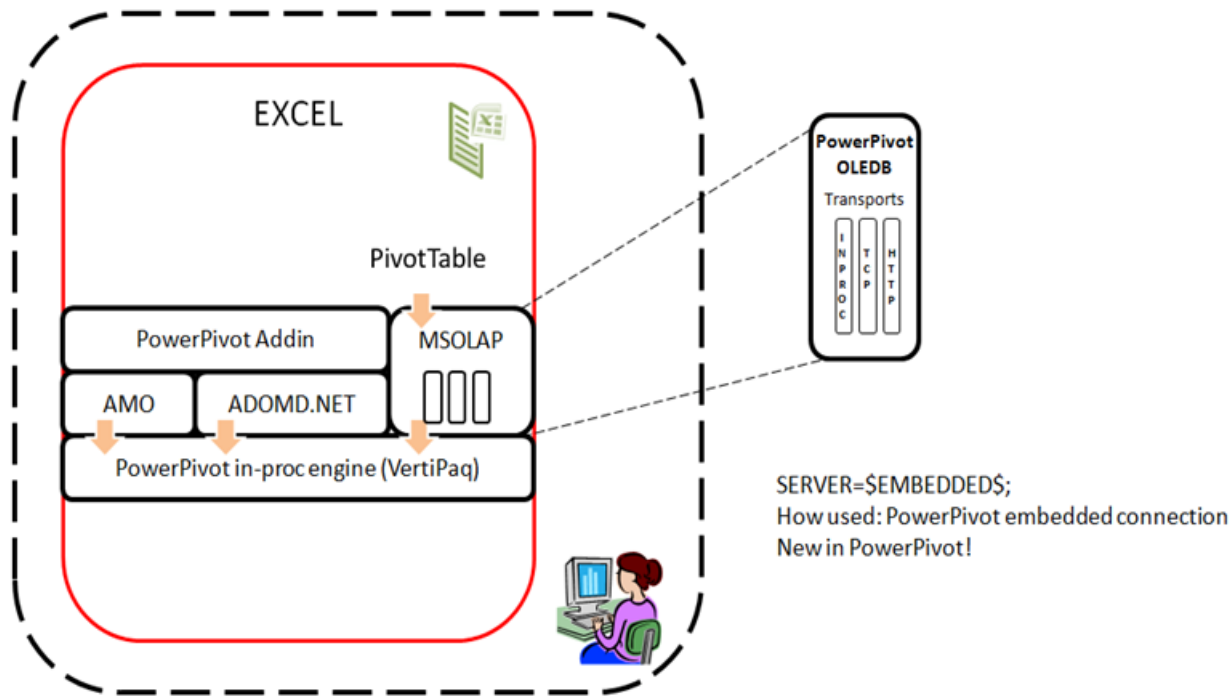
- PowerPivot is an Excel add-in that extends the capabilities of Excel to create self-service BI solutions
- It takes the extremely familiar Excel environment and extends capabilities
- Allows for manipulation of millions of rows of data – throw 1 million row limit out window
- High compression keeps file sizes in check
- Demo

Types of PowerPivot?

There are 2 different flavors of PowerPivot

- PowerPivot for Excel – addin for Excel (client side only)
- PowerPivot for SharePoint – add in for SharePoint that allows data manipulation and sharing of workbooks via Analysis Services/Excel Services/PowerPivot System Service/SQL Server PowerPivot (server side processing)

So how does it work?



It builds off of SSAS technologies and utilizes VertiPaaS engine to create an In-Memory BI (IMBI) database. Database actually stored in Excel file with intense compression and column store

100 million rows?! Shut yo mouth! I'm just talking about PowerPivot. We can dig it.



- Takes the data from your sources and puts into an in memory database within Excel
- Utilizes column based storage so extends capabilities of compressions (more repeatable patterns than row based)
- Can see imdb if change to zip. Can even restore into an IMBI mode SSAS R2 instance (rename .data file to .abf).

demo

There's no such thing as a free lunch



There are some limitations of PowerPivot

- Is a read only copy – cannot edit data (you can edit source and refresh – links maintained)
- Still at the mercy of the outside factors (network, bandwidth, servers). Just another client but once it's in there it will fly.
- 2GB file size limit (around 4 GB of data and on up depending on compression)
- For now appears you have to install a new instance of SQL Server with install (can't connect to existing one – found hack but looked dangerous)
- Won't replace BI – still needed for analytics. This will just help the data users get what they need without waiting on IT

What is required to get going?

- ◉ Requires Excel 2010 (Office 2010)
- ◉ Must install addin from Microsoft (free)

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=e081c894-e4ab-42df-8c87-4b99c1f3c49b&displaylang=en>

For PowerPivot for SharePoint additional pieces required:

- ◉ SharePoint 2010 (requires Excel Services = Enterprise edition)
- ◉ SQL Server 2008 R2 (you guessed it...Enterprise)

What else is required to get going? Install Gotchas

- SharePoint 2010 is 64 bit only
- SharePoint install must be server farm option even if setting up on one server. Required to support administrative and data access
- 64 bit on client not required but will help with performance overall especially for sorting

What can I get at with this?

There are many many types of data you can analyze with PowerPivot

- Relational sources (SQL Server, Oracle, MySQL, Access, DB2, SQL Azure)
- Multidimension sources (SSAS cubes – gives you flatten rowsets or a table)
- File sources
- Data feeds (ATOM, reports, RSS)
- Clipboard
- Excel

Ok I have data in there...now what?

- Relationships – make relationships between tables (discover joins or perfect relationships)
- Calculated columns
- DAX
- PivotTables
- Charts
- Slicers
- Measures (Aggregations/Time Intelligence)

DAX...MDX meets Excel

DAX (Data Analysis Expressions)

- It is an expression language based off Excel functions
- Used in calculated columns and measures
- Several types:
 - Date/Time – MONTH(date), DAY(date)
 - Information – ISBLANK(value) return T/F
 - Filter and Value – RELATED(value),
 - Logical – IF(logical test, value if true, value if false)
 - Math and Trig – ROUND(number, num_digits)
 - Statistical – COUNT(value), AVERAGE(value)
 - Text – CONCATENATE(text, text2), TRIM(text)
 - Time Intelligence – ENDOFQUARTER(date)

Demo

Lets see sumthin purty



Since this is BI then you have to have pretty pictures for them reports and make it super impressive for the boss man.

- PivotTables
 - Charts
 - Slicers
- Demo

Looky at what I made!

Can put your PowerPivot files into SharePoint to share with the world.

- PowerPivot Gallery – place to view, run, refresh data from within SharePoint
- PowerPivot IT Dashboard – tool for IT to keep things in check on the resources and use of these PowerPivot workbooks

Demo

Wrap it up lady

What did we learn today?

- What the heck PowerPivot is
- What the heck you can do with it
- How the heck to share it with others

Any questions?

References

There are a lot of good resources out there for learning more about PowerPivot

- www.powerpivot.com
- www.powerpivotpro.com
- www.powerpivot-info.com
- www.powerpivottwins.com
- FAQ -
<http://powerpivotfaq.com/Lists/TGPPF/AllItems.aspx>



Thank you so much!

I really appreciate you all coming to my presentation! Make sure to give feedback.

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