

SQL Server 2016 Business Intelligence – Analysis Services

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Analysis Services

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SQL Server Analysis Services 2016

Improved productivity and performance



- Use SQL Server Analysis Services as a semantic model only
 - High performance DirectQuery for Tabular
- Make it easier to create powerful models
 - Tabular modeling capabilities and performance
- Improve manageability and security
 - Provide additional tools for administrators
- Strengthen Multidimensional
 - Performance and data source updates

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Analysis Services as the BI Semantic Model

One Semantic Model for BI

For reporting, analytics, dashboards
A single semantic layer to abstract business problems in an easy way
One model for client tools, two ways to build it – tabular & multidimensional



Tabular models in Analysis Services

Tables and relationships
Fast by default (in memory)
Easy to get started, reduced complexity

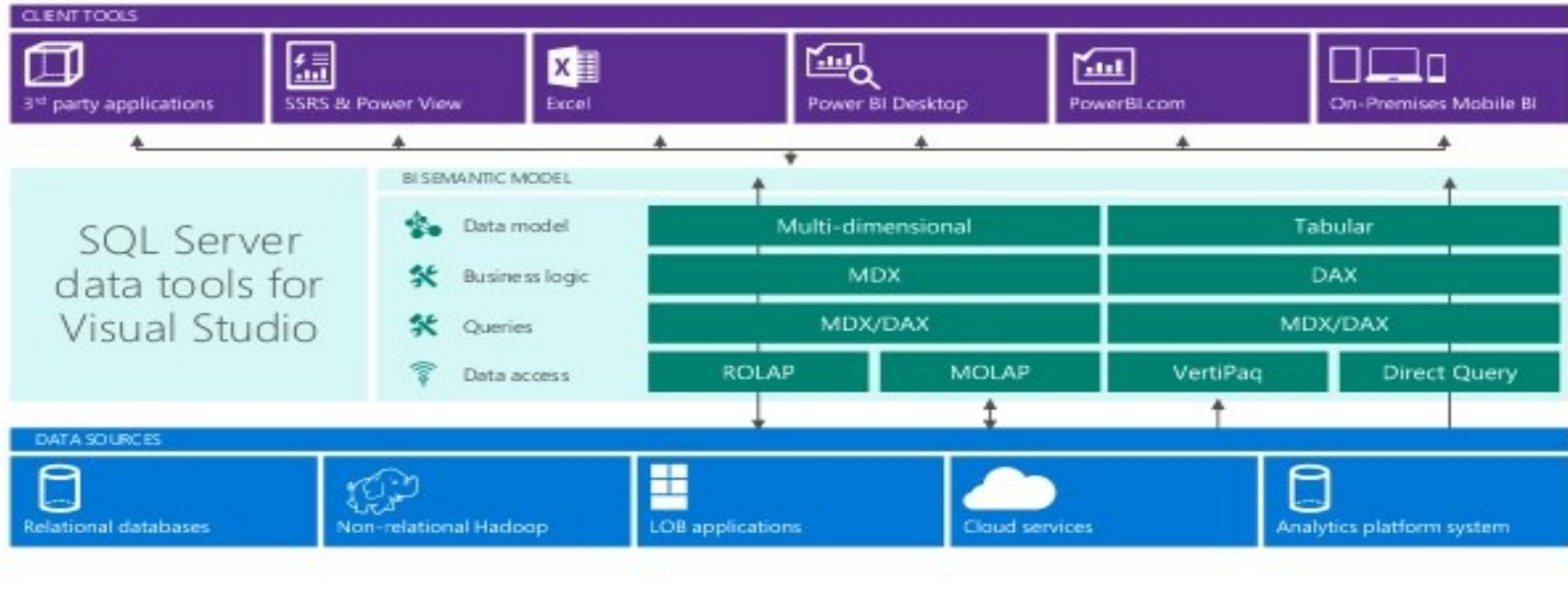


Multidimensional models in Analysis Services

Dimensions and measure groups
Highly scalable and mature
Very feature rich, but complex

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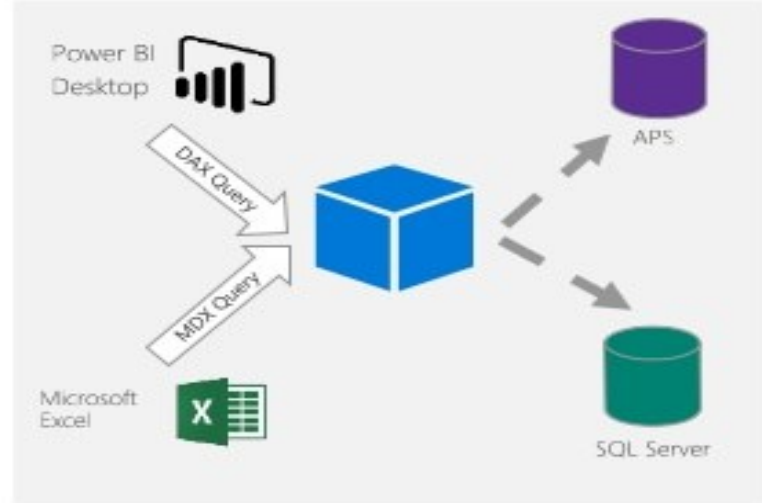
SQL Server Analysis Services



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Analysis Services as a Semantic Model

Enhanced performance DirectQuery for Tabular



- Direct access without storing data in Analysis Services
- Improved performance
- Support for row level security
- Support for intra-row calculated columns
- Support for MDX
- Support for more data sources: Oracle, Teradata, APS

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Tabular Models in SQL Server 2016

Enhanced capabilities and performance



- Allow M:M and 1:1 relationships with bi-directional cross filtering
- Access to 50+ new DAX functions and support for variables
- Enable users to view semantic models in their preferred language(s)
- Organize calculations in display folders for easier navigation
- Enhanced performance through processing partitions in parallel

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Tabular Scripting Language & Object Model

Improved development

```

Tabular scripting language

{
  "name": "Demo Model",
  "description": "Demo model description",
  "culture": "en-US",
  "dataSources": [
    ...
  ],
  "tables": [
    {
      "name": "Customer",
      "description": "Customer information.",
      "columns": [
        {
          "name": "ID",
          "dataType": "int64",
          "sourceColumn": "customer_id",
          "sortByColumn": "Last Name"
        }
      ]
    }
  ]
}
    
```

- New tabular script and object model allows for simplified scripting and development
- Metadata changes only change a single object that makes the metadata operations fast
- Localized metadata changes also allow for simple code merges
- Parity with Power BI API's allows for reusability between products

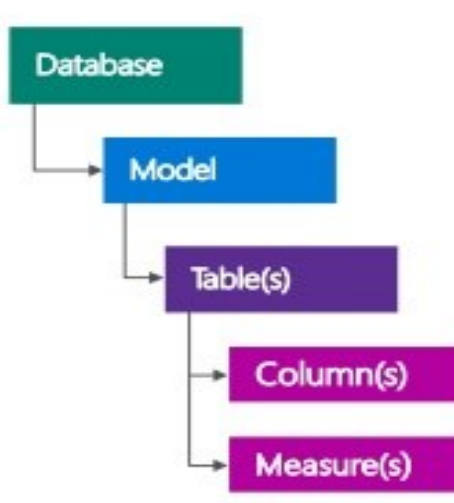
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Developing Tabular Models in 2016

Object model

```

public void RefreshTable()
{
    var server = new Server();
    server.Connect(ServerConnectionString);
    //Connect to the server
    Database Db = server.Databases["TMDB"];
    //Connect to the DB
    Model m = Db.Model; //Get the model
    //Mark the Sales table to be refreshed
    m.Tables["Sales"].Refresh(RefreshType.Full);
    m.SaveChanges(); //Commit the changes
}
    
```



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Multidimensional Enhancements

Build on your existing BI investments

Improved Connectivity

Visualize and explore existing models with Power BI and Power BI Desktop
Support for Netezza as a data source

Performance

Distinct count ROLAP optimization for data sources like DB2, Oracle and Netezza

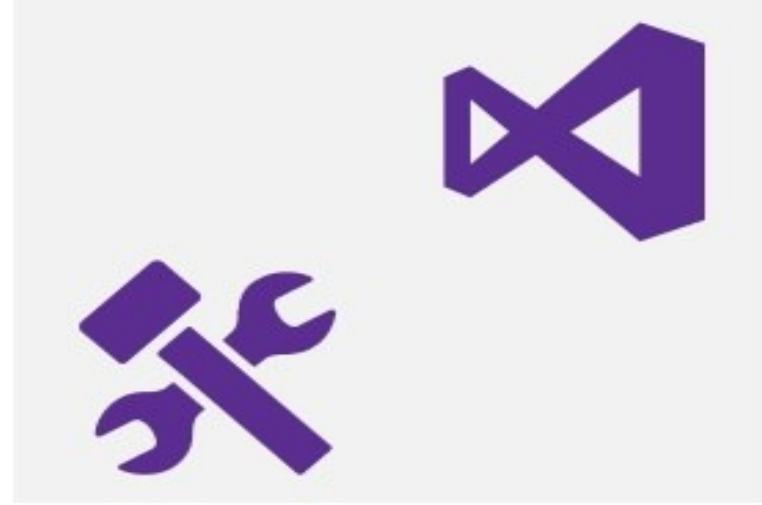
New Drill-Through Features

Customization options for drill-through behaviors for actions
Drill-through multi-selection support with Excel 2016

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Dev / Ops in SQL Server 2016

Improved manageability and development



- Single SQL Server Data Tools for Visual Studio 2015
- DBCC support allows checking for corruption across the database or on individual objects
- SSAS now supports XEvents for trace events to be analyzed from SSMS
- "Serverless tools" for Tabular
- Management of DAX through a calculation script

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Enhancements for SharePoint BI



Support for SharePoint 2016

- Edit mode for PowerPivot workbooks
- Support for Excel 2016 workbooks
- Scheduled Data Refresh for Power Query connections
- Reporting Services improvements for SharePoint 2013 and 2016
- New chart types and HTML5 rendering
- Plugin-free printing and export to PowerPoint
- Updated Report Builder

Read more at: <http://www.slideshare.net/idigdata/sql-server-2016-business-intelligence>

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