

# SQL Server 2016 Analysis Services

Transform complex data into actionable insights

Microsoft SQL Server 2016 enables organizations to build comprehensive, enterprise-ready analytic solutions that deliver actionable insights through familiar data visualization tools such as Microsoft Power BI and Microsoft Excel. Transform complex data into a business intelligence (BI) semantic model that can be easily accessed and understood by business users to provide faster time to insights and increase adoption. With SQL Server 2016 Analysis Services you can create powerful BI semantic models, whether you decide to use traditional multidimensional models or tabular models, and get started faster.

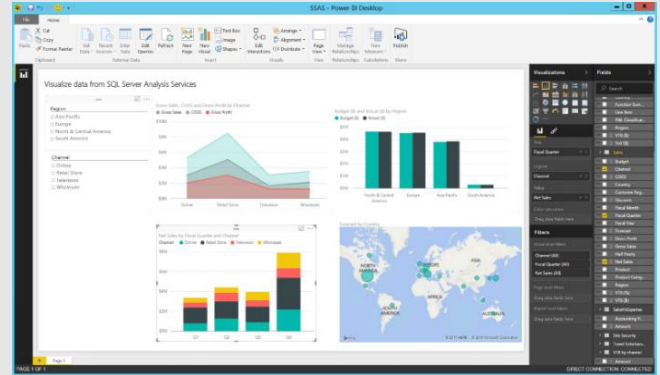


Figure 1. Analyze your data model with Power BI

## At a glance

- **Tabular models:** Tabular models in SQL Server Analysis Services 2016 provide an easier, simpler, yet powerful way to create semantic models. Use tabular models in-memory to access data at the speed of thought, or access data directly in real-time without storing it in Analysis Services with DirectQuery.
- **Multidimensional models:** Benefit from performance and manageability enhancements in SQL Server 2016 Analysis Services to the rich semantic and highly scalable multidimensional models.
- **Simplified setup experience:** SQL Server Data Tools (SSDT) for Analysis Services 2016 is available as part of SSDT in Visual Studio 2015, providing a simplified setup and installation experience for all your SQL Server Data Tools.
- **Hybrid BI—connect to on-premises data from the cloud:** Benefit from your investments in SQL Server Analysis Services by connecting your multidimensional and tabular models to Power BI and access up-to-date information without moving your data to the cloud.
- **Predictable cost of ownership:** With the BI capabilities built-in to SQL Server 2016 you can reduce licensing complexity by not licensing critical BI features a-la-carte.

## SQL Server Analysis Services

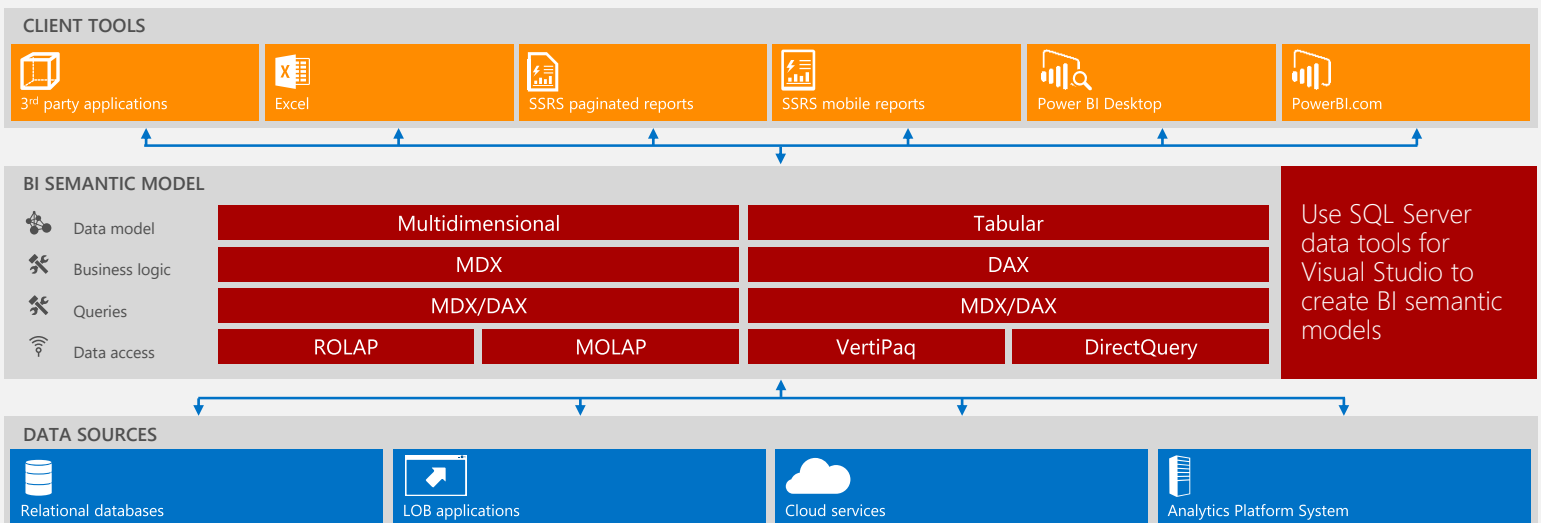


Figure 2. SQL Server Analysis Services overview



## Rely on the proven, comprehensive, enterprise-ready, and scalable BI platform

### IT managed data security

- Create role member permissions for different access rights with centralized permissions
- Apply row filters to control which rows in a table can be queried by members of a particular role

### Familiar deployment environment

- Use SQL Server Data Tools in Visual Studio 2015—a modern development tool—and SQL Server Management Studio to manage your data models
- Manage source control, versions and seamlessly deploy in development, testing, and production environments in the familiar Visual Studio 2015 environment

### Scale to meet your business needs

- Manage your tabular and multidimensional models completely through code with rich object model programming capabilities
- Implement highly-available services using failover clustering

### Works with what you have

- Enable business insights on a platform designed to be used with familiar and preferred visualization and other 3rd party tools

### Flexible deployment options

- Deploy to on-premises servers or virtual machines with an Azure VM gallery template for SQL Server 2016

### Performance that matches the needs of your business

- Reduce processing time and increase manageability of your data with parallel partition processing

### Ease of manageability

- Benefit from enterprise-level development and operations support
- Easily monitor and diagnose any type of system events with built-in support for SQL Server Extended Events (xEvents)
- Navigate, administer and query Analysis Services objects, automate operational tasks, and manage Analysis Services with Analysis Services PowerShell



## Transform complex data into valuable and actionable insights using familiar tools

### Connect to all your data

- Connect, combine and analyze all your business data into a single model to create comprehensive business insights

### Hybrid BI

- Transition to a hybrid approach and continue to benefit from your existing on-premises investments and the flexibility of the cloud
- Centrally manage access to on-premises SQL Server Analysis Services data from the Power BI service without moving data

### Reduce time to insights with tabular

- Start your semantic model in no time using tables and relationships
- Enjoy speed by default as data is stored in-memory

### Help solve complex business problems

- Access 250+ built-in analytical functions to help developers easily solve common business problems
- Address complex relationship patterns without adding complexity

### Data where you need it

- Load data into the in-memory (VertiPaq) or MOLAP (multidimensional online analytical processing) storage engine to gain insights at the speed of thought
- Analyze data directly from the data source for real-time insights with DirectQuery and ROLAP mode
- Use highly-scalable multidimensional models using cubes and dimensions to support complex query constructions

### Rich analytics with multidimensional

- Build your semantic model using the multidimensional approach
- Enjoy support for rich, advanced analysis with capabilities like write back, unary operators and custom roll-up.

### Create quality insights to inform the business

- Transform complex schemas into business-friendly BI semantic models and apply easy-to-understand naming in preferred language(s)
- Enable easy navigation by creating hierarchies and relationships between columns and tables
- Create centralized KPIs to allow the entire business to measure the same performance indicators in same way



## Empower business users across the organization with the right insights

- Empower business users and data analysts to create compelling reports and analytical solutions on their own

- Enable business users to connect to on-premises data from the Power BI service to access up-to-date data

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