Power BI overview
Unlock insights on any data

Power BI overview

Turning data into a business advantage
The world of data is changing

By 2015, organizations that build a modern information management system will outperform their peers financially by 20 percent.

— Gartner, Mark Beyer, “Information Management in the 21st Century”
Everyone should have access to the data they need
A powerful new way to work with data
Self-service business intelligence and analytics with Excel and the power of the cloud

Analyze in Excel
1 Billion Office Users

Collaborate in Power BI for Office 365
1 in 4 enterprise customers on Office 365

Discover Analyze Visualize

Share Question Mobility

Scalable | Manageable | Trusted
Analyzing data with Excel

 Easily discover and access public and corporate data.

- Discover
- Analyze
- Visualize
- Explore
Analyzing data with Excel

- Discover
- Analyze
- Visualize
- Explore

Model & analyze 100’s of millions of rows of data
Analyzing data with Excel

Explore your data with interactive visualization

- Discover
- Analyze
- Visualize
- Explore
Analyzing data with Excel

Uncover new insights with 3D geospatial analysis

Discover
Analyze
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A powerful new way to work with data
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Discover  Analyze  Visualize

Share  Question  Mobility

Scalable  |  Manageable  |  Trusted
Share & collaborate with Power BI for Office 365

- BI ‘Sites’
- Shared Queries
- Data Refresh
- Data Search
- Mobile Access
- Natural Language Questions

Quickly create collaborative BI sites
Share & collaborate with Power BI for Office 365

- BI Sites
- Shared Queries
- Data Refresh
- Data Search
- Mobile Access
- Natural Language Questions

Manage data queries for the team
Share & collaborate with Power BI for Office 365

- BI Sites
- Shared Queries
- Data Refresh
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- Natural Language Questions

Keep reports up to date with scheduled data refresh

Power BI for Office 365
Workbook

Cloud

On Premise

Data Management Gateway
Installed on-premises
Share & collaborate with Power BI for Office 365

- BI Sites
- Shared Queries
- Data Refresh
- Data Search
- Mobile Access
- Natural Language Questions

Maintain a data catalog of searchable data

Search for:
- Public Data
- Corporate Data
- Shared Queries
Share & collaborate with Power BI for Office 365

- BI Sites
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- Data Refresh
- Data Search
- Mobile Access
- Natural Language Questions

Stay connected with mobile access to your reports
Share & collaborate with Power BI for Office 365

- BI Sites
- Shared Queries
- Data Refresh
- Data Search
- Mobile Access
- Natural Language Questions

Ask questions of your data in natural language
Where does this fit within my organization?
Business Intelligence for everyone

- For BI to deliver maximum value, all Information Workers must participate:
  - Broad access to uncover and share insights
- Power BI is:
  - SaaS based, making it quick to implement broadly
  - Integrated with Office 365, making collaboration straightforward
  - Priced to drive broad adoption
From insight to action

Data
- What should I do?
- What will happen if...?
- Why did it happen?
- What happened?

Automation
Recommendation
Decision
Action

People & Insights
Microsoft Cortana Analytics Suite

Information Management
- Azure Data Factory
- Azure Data Catalog
- Azure Event Hub

Big Data Stores
- Azure Data Lake
- Azure SQL Data Warehouse
- Azure HDInsight (Hadoop)

Machine Learning and Analytics
- Azure Machine Learning
- Azure Stream Analytics

Dashboards and Visualizations
- Power BI

Personal Digital Assistant
- Cortana

Perceptual Intelligence
- Face, vision
- Speech, text

Business Scenarios
- Recommendations, customer churn, forecasting, etc.
Building on your existing BI investments

Excel
- The standard among Business Analysts
- Easily migrate the data and underlying models from Excel

SQL Server Analysis Services
- DAX Compatibility

SQL Server Reporting Services
- SSRS output can be pinned on Power BI dashboards
Differentiating Features

- Data access, mashups, and transformation in Power BI Desktop
- Pre-built dashboards and reports for popular SaaS solutions
- Real-time dashboard updates
- Intuitive data exploration using natural language query
- Secure, live connection to your data sources, on-premises and in the cloud
Data sources include

- **Microsoft apps & SaaS**
  - e.g. Dynamics, Office 365, Visual Studio Online, System Center, ...

- **3rd party apps & SaaS**
  - e.g. Salesforce, Marketo, Zendesk, Adobe, Quickbooks, Custom

- **Microsoft databases & data services**
  - e.g. SQL Server Stream Analytics, SQL Data Warehouse, Excel, HDI, ...

- **3rd party databases and data services**
  - e.g. Oracle, Teradata, DB2, PostgresSQL, Hadoop, MySQL

Connects to the Data That Matters to You
Market leadership recognized by analysts

- “Microsoft Power BI leads the Agile BI pack.” – Forrester
- “BI leaders can now consider Power BI ready for broad deployment without waiting for a change in corporate policy for Office.” – Gartner
- “Microsoft’s new, partner-friendly approach to Power BI expands the Microsoft ecosystem, giving BI users improved functionality and options for mobile and prebuilt solutions.” – Gartner

Forrester Wave: Agile Business Intelligence Platforms, Q3 2015
Gartner: New Microsoft Power BI Is an Enhanced Offering at a Compelling License Price
Custom Data Visualizations
Unlimited possibilities

- Made for the Community by the Community
- Use in Power BI Desktop or Power BI.com
- Create new custom visual with Developer Tools
Fastest Growing BI Vendor

90,000 organizations
185 countries
Power BI vs. Competitors
<table>
<thead>
<tr>
<th>Feature</th>
<th>Power BI</th>
<th>Tableau</th>
<th>Qlikview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Visualisation</td>
<td>Deep visualizations with 3rd party add-on marketplace</td>
<td>Very strong visual analytics and dashboards</td>
<td>Similar level to tableau but not as easy to create dashboards but are regarded as better quality than tableau, may require scripting</td>
</tr>
<tr>
<td>Data Modelling</td>
<td>Strong data modelling and analytics/ easier to use than competitors</td>
<td>Basic data modelling tools</td>
<td>Does have a data modelling tool but may require an IT specialist and is known for taking time to perfect data model</td>
</tr>
<tr>
<td>Combining data</td>
<td>Ease of access to public/corporate data sources including tables from the web, merge and append</td>
<td>Large list of data source support and feeds</td>
<td>Ease of connection to proprietary data sources may struggle with others</td>
</tr>
<tr>
<td>ETL</td>
<td>Power Query is easy to use powerful ETL tool, Q&amp;A unique to Power BI</td>
<td>Does not have an ETL tool, ETL needs to be done in a database or via Excel</td>
<td>Does have an ETL tool but may not be included in standard package</td>
</tr>
</tbody>
</table>
Next Steps

Try Power BI for Office 365 at:

www.powerbi.com
Power BI Architecture & Data Management Gateway
Power BI – Conceptual Architecture

- O365 Power BI
- Corporate Data Sources
- IT Admin
- Data Management Gateway
- IW (Author)
- IW (Consumer)
- Index
- Public Cloud Data Sources
- Public Data Catalog
- Corporate Data Catalog
- Power BI Admin Center
- Data Management Portal
- SPO team sites, BI Sites, Q&A
- Cloud Data Sources
- Data Refresh
- Import Data
- Data Steward
- Manage Data
- Publish queries
- Publish reports & create featured questions, configure scheduled refresh
- Excel, Tablet/Mobile, Browser – Silverlight, HTML5
- Import Data
- Configure
- IW (Author)
- IW (Consumer)
- Publish raw data sources or expose them as OData feeds
- Data Refresh
- Manage Data
- Import data, Publish queries
- Import Data
- Import Data
- Import Data
- Import Data
- Import Data
Data Management Gateway

- Enabling Corporate OData Feeds
- Enabling Discovery in Power Query
- Enabling Excel Workbook Data Refresh using SharePoint Online
**Data Management Gateway - Conceptual**

**Power BI Admin Center**
Allows IT to configure, manage and monitor access to corporate data sources.

**Data Management Gateway**
Connects to corporate data sources and sends data to Microsoft cloud services through a secure channel (Service Bus).

**Corporate Data Sources**
The Gateway can connect to a variety of data sources.

**Secure Credential Store**
All credentials used by the gateway are stored on-premises. Encrypted backup of credentials can also be stored in the cloud to enable business continuity scenarios.
Extend with Hybrid Cloud Solutions

On-Premise Data Access
Enable manual or scheduled data refresh for reports in Office 365 to on-premise sources

Enterprise Data Search
Enable ease of discovery with data search across on-premise data

Data Usage & Telemetry
Monitor data usage across your organization to optimize system investments

Data Management Gateway

- **Refresh Selected Connection**
  Refresh the data connection for the currently selected PivotTable or PivotChart.

- **Refresh All Connections**
  Refresh all data connections in the workbook.

- **Calculate Workbook**
  Recalculate the workbook.

Graph showing data trend over years.
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Data Catalogue
Corporate OData Feeds

(1) Using Power Query Anna connects to OData feed

(2) Redirect to gateway

(3) The Data Management Gateway connects to SQL Server using either Windows account or Database account setup by IT when creating the feed

(4) Returns Result

(5) Returns OData feed
Data Refresh from Power BI Sites

1. Data refresh is triggered
2. Connects to Gateway Cloud Service
3. Checks whether user is authorized to perform a refresh
4. Sends command (SQL statement, connection string) to on-premise Gateway
5. Sends SQL to SQL Server
6. Return Results
7. Compress, chunk and return the data
8. Returns data to Excel Workbook