



Introducing Power BI

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Meet me

Kyle Akepanidtaworn

Global Cloud Solution Architect, Microsoft

40+ professional certifications across Microsoft, IBM, Tableau, INSEAD

Coach for Knowledge Mining and Azure Cognitive Search

Coach for Modern Data Warehousing on Azure

Azure for SAP Workloads

MCSA: BI Reporting Certified 2020

Microsoft-INSEAD AI Business School

Certified Data Analyst, Data Scientist, Data Engineer, and AI Engineer

Tableau Data Steward, Tableau Data Scientist, Tableau Developer

IBM Data Science Methodologies

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Kyle Akepanidtaworn, a global cloud solution architect with the mission to helping customers and partners with Digital Transformation, Business Intelligence, Azure, Open Source, and Data Intelligence & Analytics etc. I am a trusted advisor to top Azure customers and help empower them to achieve more.







Specialties: BI + AI, data warehousing, data science, big data, Hadoop, cloud, master data management, machine learning, solution architecture, ETL, data modeling, data migration, dashboarding.

Introduction to Power BI

Power BI Overview



Common challenges for BI

	Management of BI systems	Time spent on setup and management of BI systems. Ongoing hardware acquisitions and maintenance to meet SLAs
	Variety of data sources	Complexity of connecting to on-premise and cloud (SaaS) data sources
	Managing data in the cloud	Security, privacy and data refresh concerns for moving data into the cloud
	Integration with existing environment	Cost and time involved in integration of solution into existing environment. Extensibility of system
	Keeping data current	Complexity of refreshing data from variety of data sources, increased demand for real-time data
	Ease of use and adoption	Ease of adoption by business and IT orgs. Time spent on creating reports and visualizations







Power BI Overview





Data sources

-  Cloud-based SaaS solutions
e.g. Marketo, Salesforce, Quickbooks, Google Analytics, ...
-  On-premises data
e.g. Analysis Services, SQL Server
-  Organizational content packs
Corporate data sources or external data services
-  Azure services
Azure SQL, Stream Analytics...
-  Excel and CSV files
Workbook data, flat files
-  Power BI Desktop files
Data from files, databases, Azure, Online Services, and other sources

Power BI Service

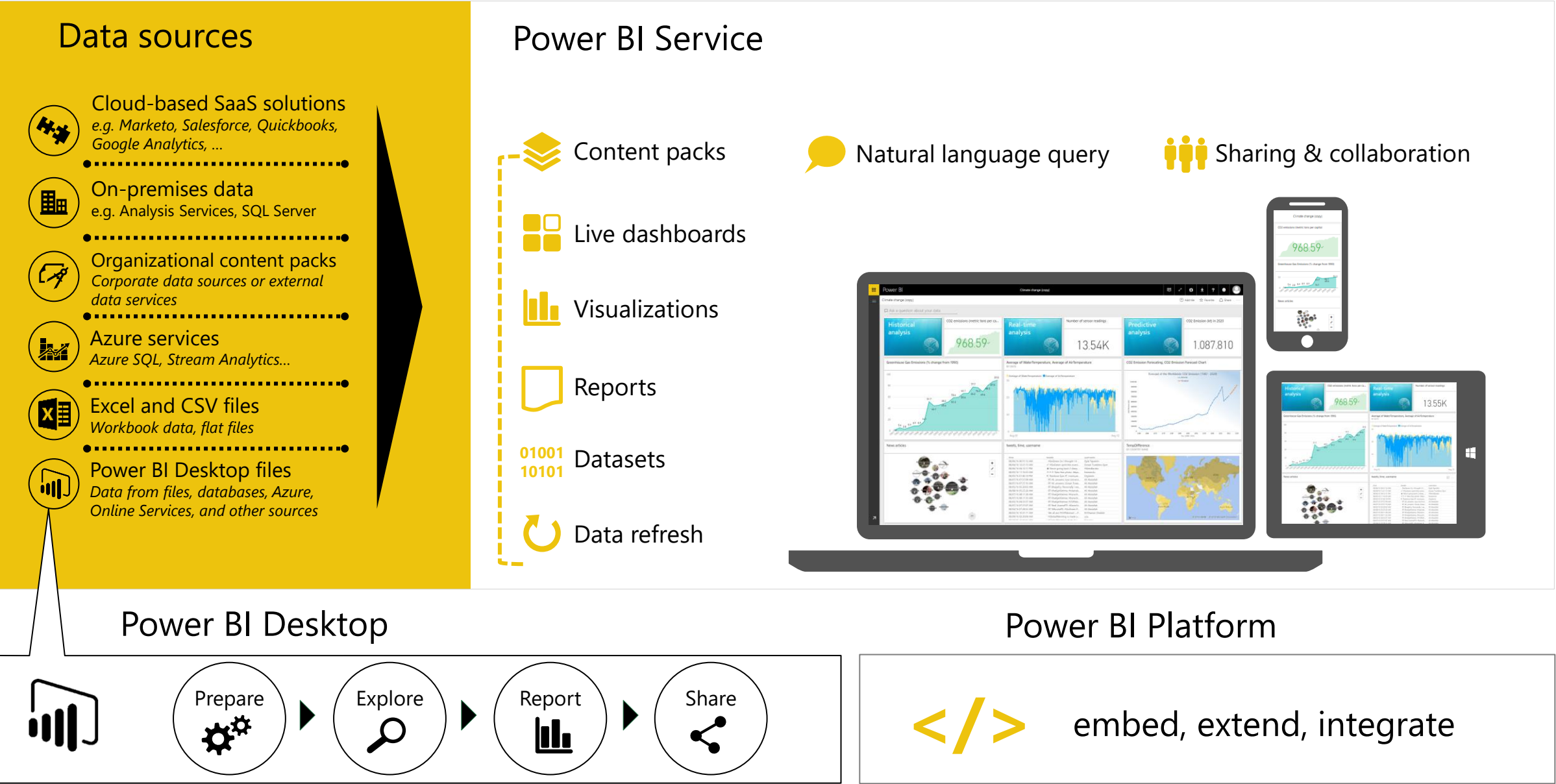
-  Content packs
-  Live dashboards
-  Visualizations
-  Reports
-  Datasets
-  Data refresh

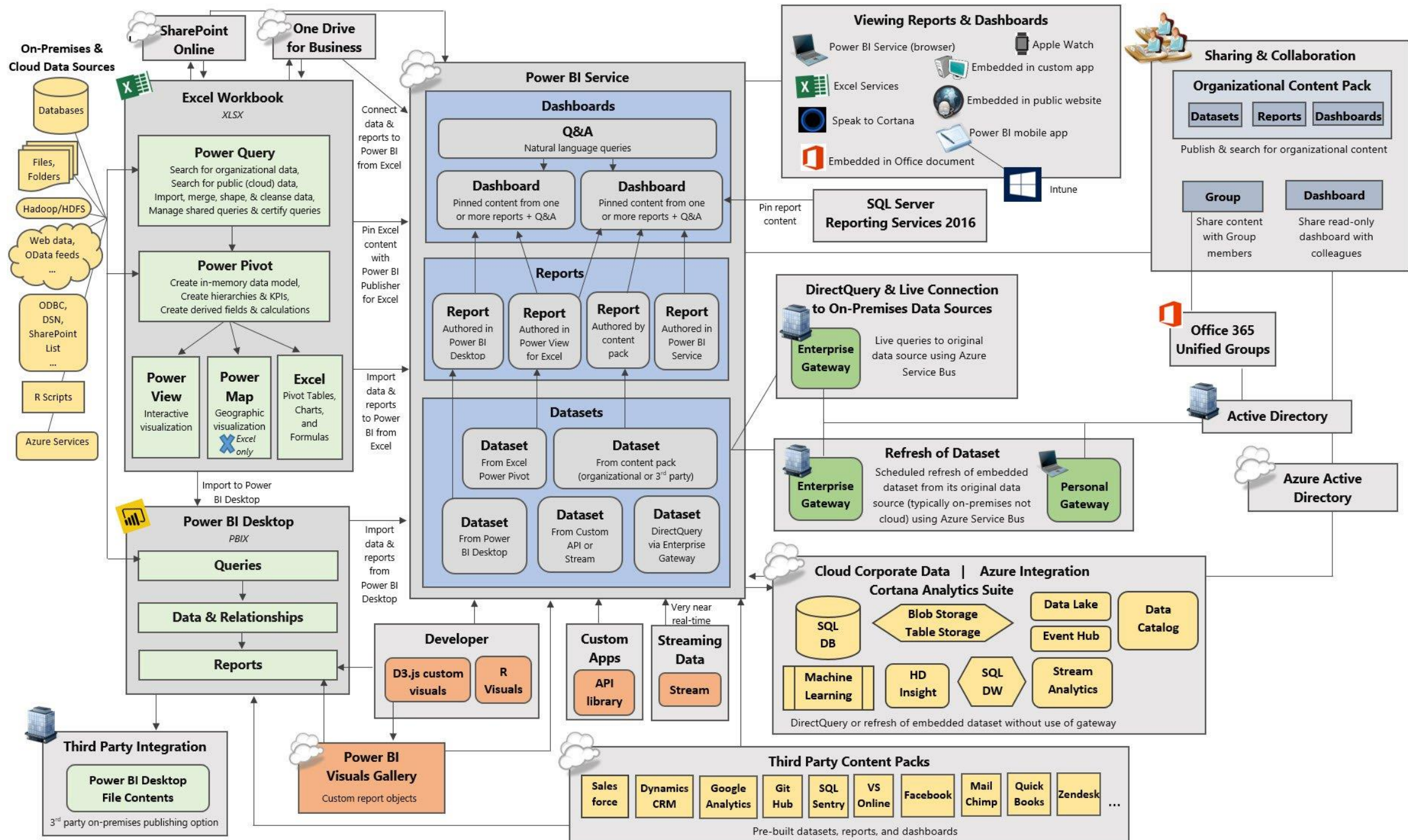
 Natural language query

 Sharing & collaboration



Power BI Overview





Introduction to Power BI

Why Power BI?



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



Keeping data current



Ease of use and adoption

Faster time to solution and ease of management

- Power BI is a Software as a Service (SaaS) BI solution
 - No need to setup your own hardware
 - 99.9% uptime SLA
 - Grows with your needs for number of users and data volumes
 - Ease of maintenance with automatic updates
- Realize the benefits of a SaaS-based BI solution without moving your data to the cloud
- More time to focus on business needs and creating better solutions for end users
- Power BI will meet your security and compliance requirements
 - Use Azure Conditional Access policies for secure access
 - Manage users, groups, admins (in O365 admin portal)
 - View and search audit logs (in O365 Security and Compliance portal)
 - View usage metrics
 - Specify tenant settings – what features are available in your organization

IT challenges



Management of BI systems



Variety of data sources



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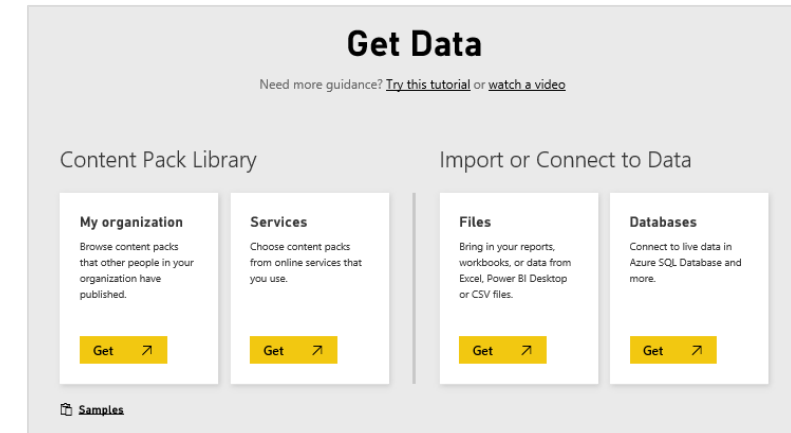
Keeping data current



Ease of use and adoption

Built-in connectivity to all of your data

- Lowered IT investment in ETL infrastructure
- Data from services
 - Content packs for SaaS services that you already use
 - Growing number of supported SaaS solutions
- Data from databases
 - Cloud: Azure SQL Database, Azure SQL Data Warehouse, Spark on HDInsight
 - On-premise: SQL Server Analysis Services tabular or multi-dimensional, SQL Server, SAP HANA, Oracle, Teradata (Gateway required)
- Data from your organization
 - Content published by others in your org
- Data from files
 - Import data from Excel, Power BI Desktop, or CSV files
 - Connect (upload), manage and view Excel in Power BI
- Solution templates
 - Quickly provision end-to-end, enterprise solutions



IT challenges



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Ease of use and adoption

Create organizational content packs

- IT can work with the business analysts to create content packs for an organization
- Content packs include
 - pre-built dashboards
 - reports
 - pre-defined data models
- IT can focus on providing authoritative datasets to analysts and end users, instead of developing reports
- Sample content packs for industry related scenarios are provided

Create content pack

Choose who will have access to this content pack:

☒ Specific groups ☐ My entire organization

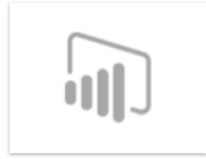
Enter email addresses

Title

Finance Dashboard

Description

Dashboard for Finance managers

 Upload an image or company logo
Image size: 45 KB or less, 4:3 aspect ratio, JPG or PNG format

Select items to publish

Dashboards	Reports	Datasets
<input type="checkbox"/> Wide World Importers	<input type="checkbox"/> 311 Scenario Demo	<input type="checkbox"/> My Power BI Analysis
<input type="checkbox"/> Sales Analysis	<input type="checkbox"/> ClimateChangeDemo	<input type="checkbox"/> 311 Scenario Demo
<input type="checkbox"/> IT Dashboard	<input type="checkbox"/> IT Dashboard	<input type="checkbox"/> IT Dashboard
<input type="checkbox"/> Operations Dashboard	<input type="checkbox"/> My Power BI Analysis	<input type="checkbox"/> Operations Dashboard
<input type="checkbox"/> Climate Change Demo	<input type="checkbox"/> Operations Dashboard	<input type="checkbox"/> ClimateChangeDemo
<input type="checkbox"/> ExcelDemo.xlsx	<input checked="" type="checkbox"/> Profit and Sales	<input checked="" type="checkbox"/> ExcelDemo
<input checked="" type="checkbox"/> Profit and Sales	<input checked="" type="checkbox"/> Sales and Expenses	<input checked="" type="checkbox"/> Sales and Profitability
	<input checked="" type="checkbox"/> Sales and Profitability	

The content pack will be available in your organization's content gallery. [Learn more](#)

Publish Cancel

IT challenges



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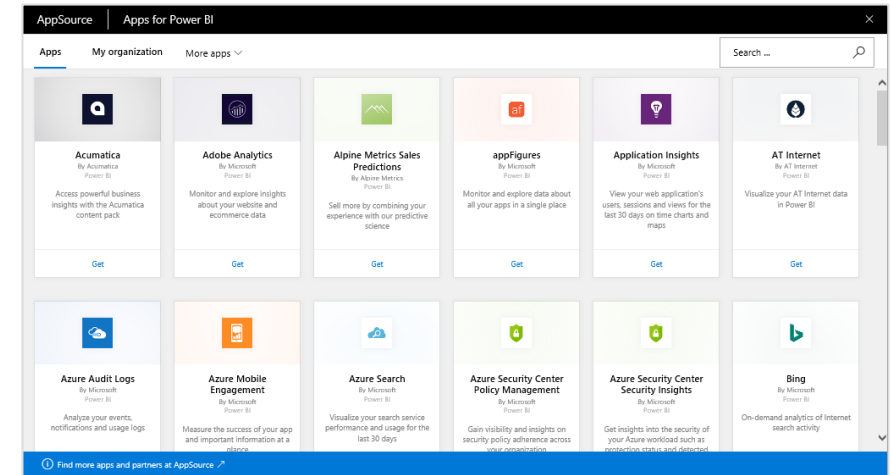
Keeping data current



Ease of use and adoption

Get instant value from your cloud data sources

- No need to build connectors or develop data extraction processes for your SaaS solutions
- Business can quickly start with solution-specific content packs which include
 - pre-configured dashboards
 - reports
 - data models
- Users can explore data with fast data processing
- Automatic data refresh is built-in



Please refer to powerbi.com for latest list of SaaS partners

IT challenges



Management of BI systems



Variety of data sources



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Integration with existing environment



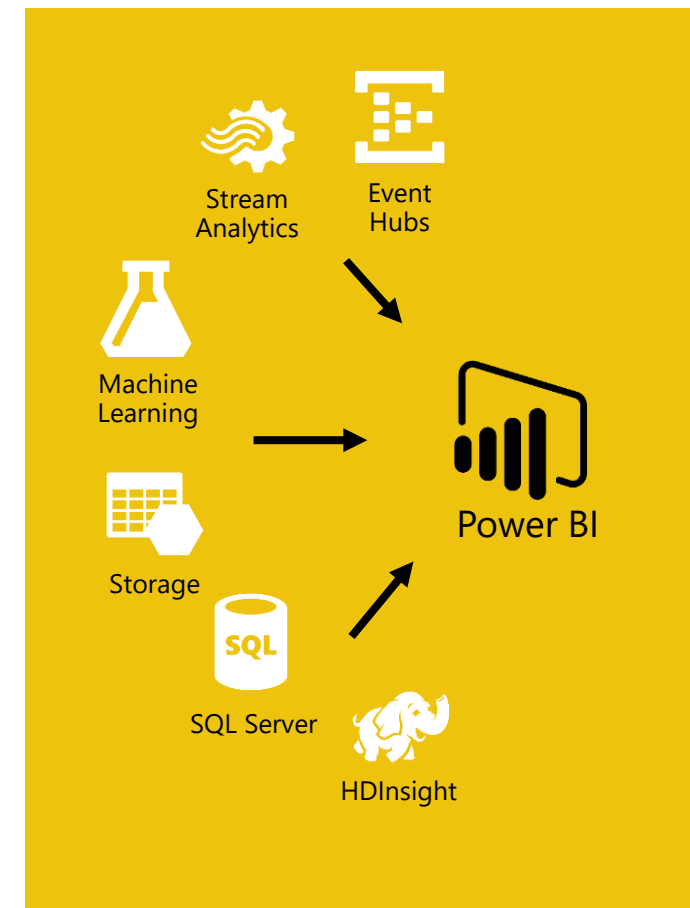
Keeping data current



Ease of use and adoption

Consume structured/unstructured data using other Azure services

- Connect directly to data from Azure services, including
 - Azure SQL Database
 - Azure SQL Data Warehouse
 - Spark on HDInsight
- Push live, streaming data from Azure Stream Analytics with built-in destination for Power BI for real-time dashboards at any scale
- Integration with other Azure services, including Azure ML, opens up new scenarios, without writing thousands of lines of code



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



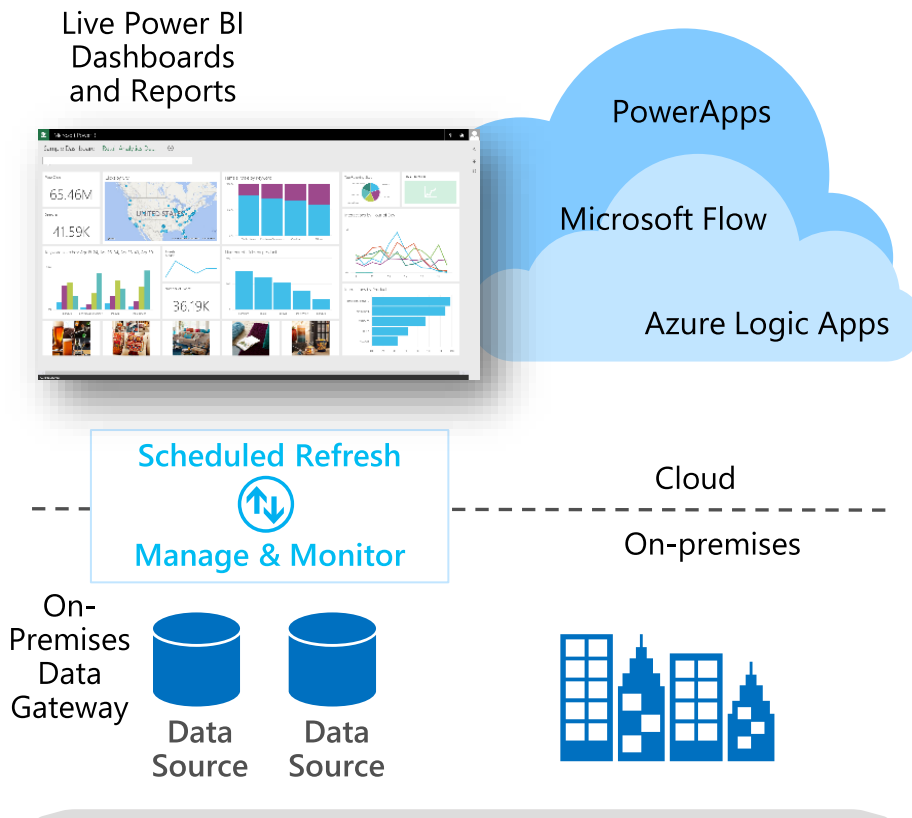
Keeping data current



Ease of use and adoption

Live connectivity to your on-premises data

- Connect live to your existing on-premises data sources:
 - Analysis Services (tabular and multidimensional)
 - SQL Server
 - SAP HANA
 - Oracle
 - Teradata
- Requires On-Premises Data Gateway
- Role-based and row-level data security
- Data remains on-premise, only query is stored in Power BI



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



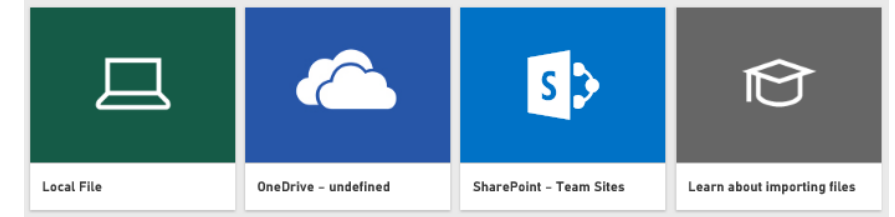
Keeping data current



Ease of use and adoption

Connect to data from your files

- Import data into Power BI from files
 - Microsoft Excel (xlsx or xlsm)
 - Power BI Desktop (pbix)
 - Comma Separated Value (csv)
- Files can be located on
 - Local machine
 - OneDrive Business or Personal
 - SharePoint Team Sites
- Two ways to use Excel files
 - Import into Power BI
 - Connect (upload), manage and view in Power BI
- Any changes to a file in OneDrive or SharePoint are synced automatically (hourly)
- Data and reports from Power BI Desktop files



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



Keeping data current

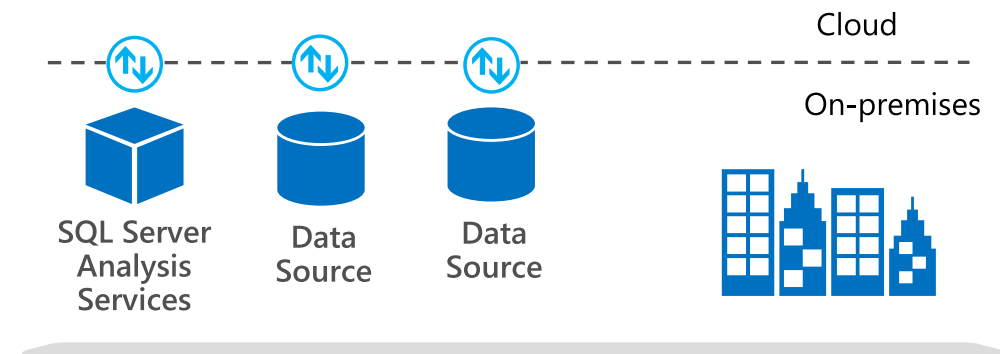
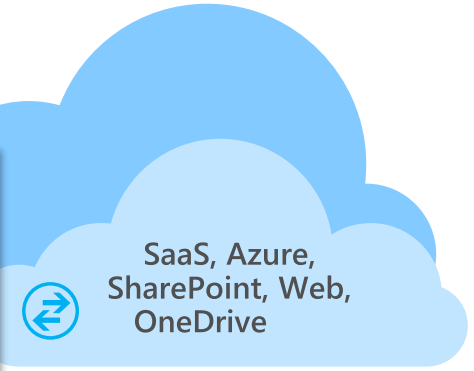
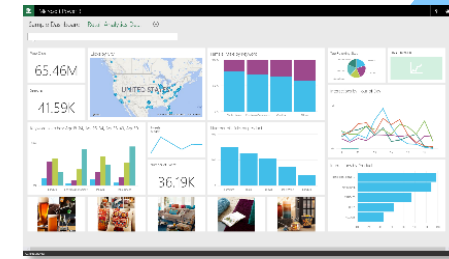


Ease of use and adoption

Keep your data where it is and connect securely

- Faster time to insight with a hybrid BI solution
- Cloud data sources
 - SaaS sources
 - Azure – SQL, DW, Blob, Table, HDInsight, Marketplace
 - SharePoint, web sources
 - OData (SAP HANA)
 - OneDrive
- On-premise data sources
 - SQL Server, Teradata, Oracle, DB2, MySQL, PostgreSQL, Sybase, SAP HANA, Access, Custom SQL, Custom ODBC Drivers
 - SQL Server Analysis Services (tabular and multi-dimensional)
 - Files/folder, SharePoint on-premises

Live Power BI
Dashboards
and Reports



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



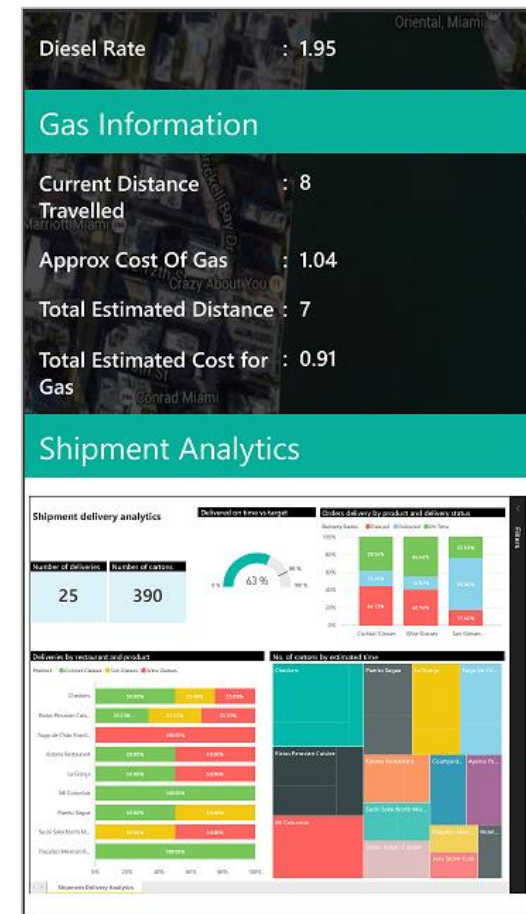
Keeping data current



Ease of use and adoption

Embed, extend, and integrate with the Power BI Platform

- Application developers can embed Power BI tiles and reports as an IFrame into an app, such as a mobile app or web app.
- Use the REST API to push data directly from your application into Power BI
- Programmatically access Power BI resources (datasets, tables, schemas)
- Secure access to Power BI service using Azure Active Directory and OAuth 2.0 authentication
- Create your own custom visuals from the published open source visuals and the provided framework



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



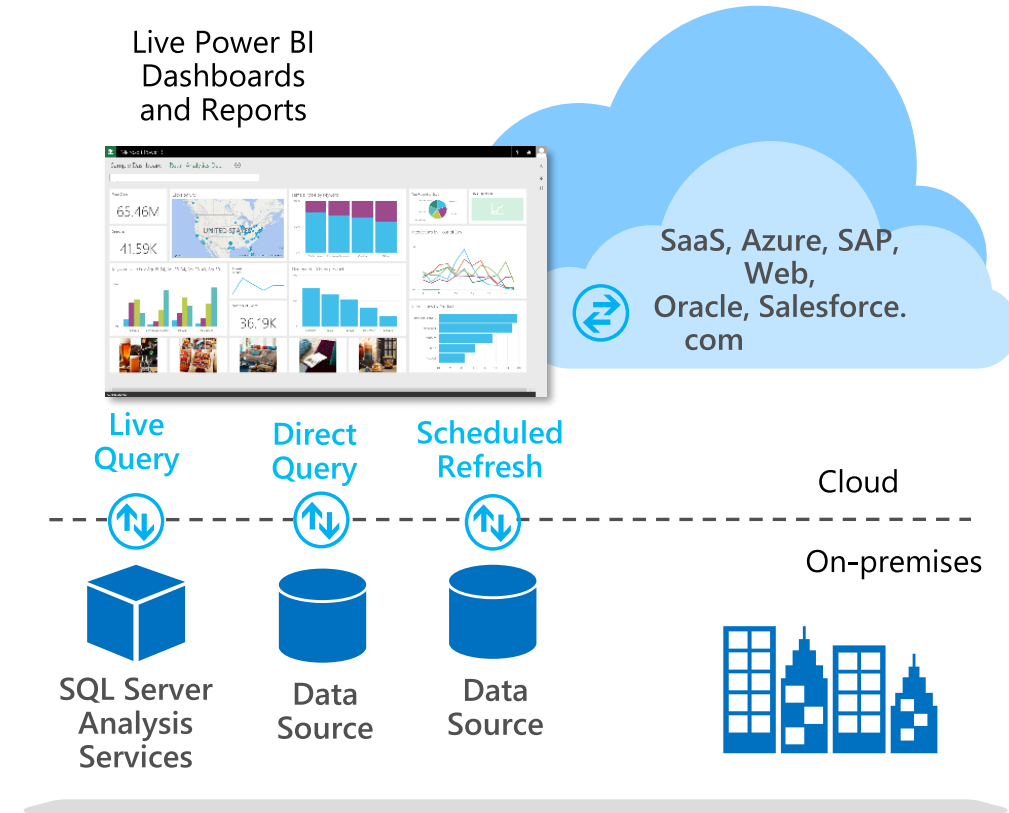
Keeping data current



Ease of use and adoption

Keep your data current

- Access and refresh the data via
 - Direct Query (Azure SQL, DW and Spark HDInsight)
 - Import (with scheduled refresh)
 - REST APIs to stream data
- Refresh on-premise data with
 - Power BI Personal Gateway
 - On-Premises Data Gateway



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



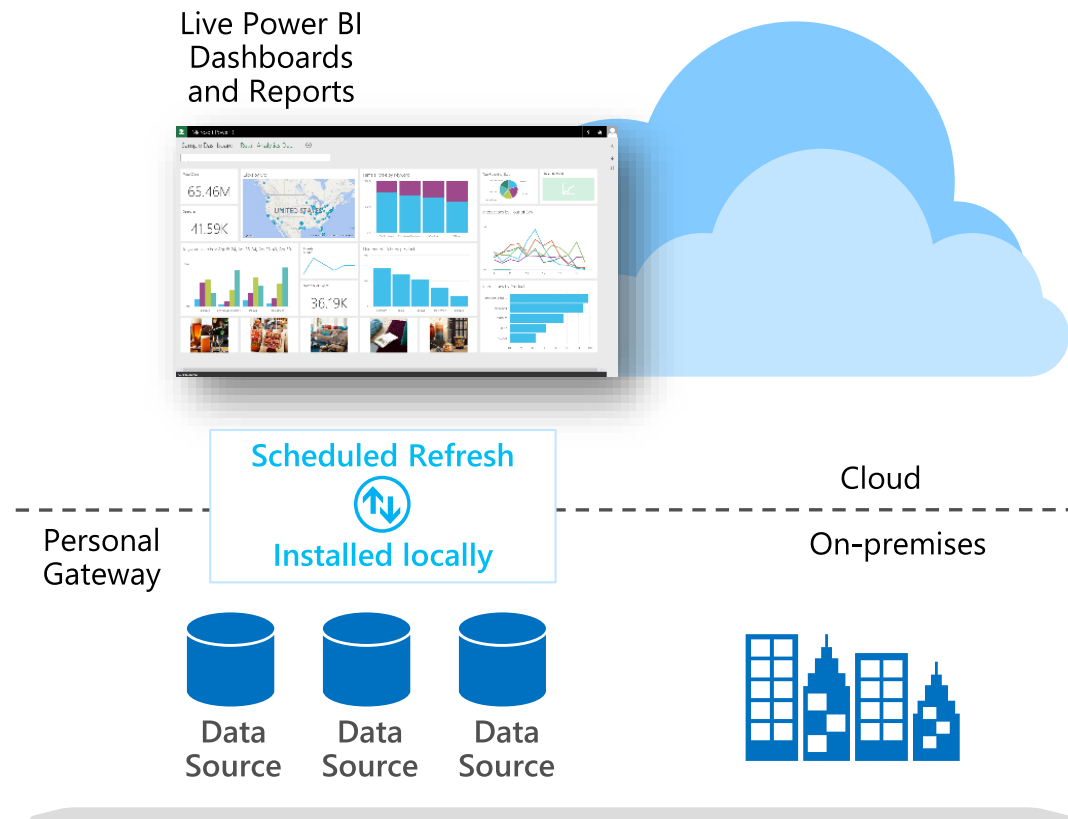
Keeping data current



Ease of use and adoption

Scheduled refresh with Power BI Personal Gateway

- Personal Gateway empowers the business analyst to securely and easily refresh on-premise data
- Self-service data refresh - no help from IT required
- Easy & simple to use - lightweight one-click installer
- One Personal Gateway per user
- Runs either as a service or an app
- Import of data with scheduled refresh



IT challenges



Management of BI systems



Variety of data sources



Managing data in the cloud



Integration with existing environment



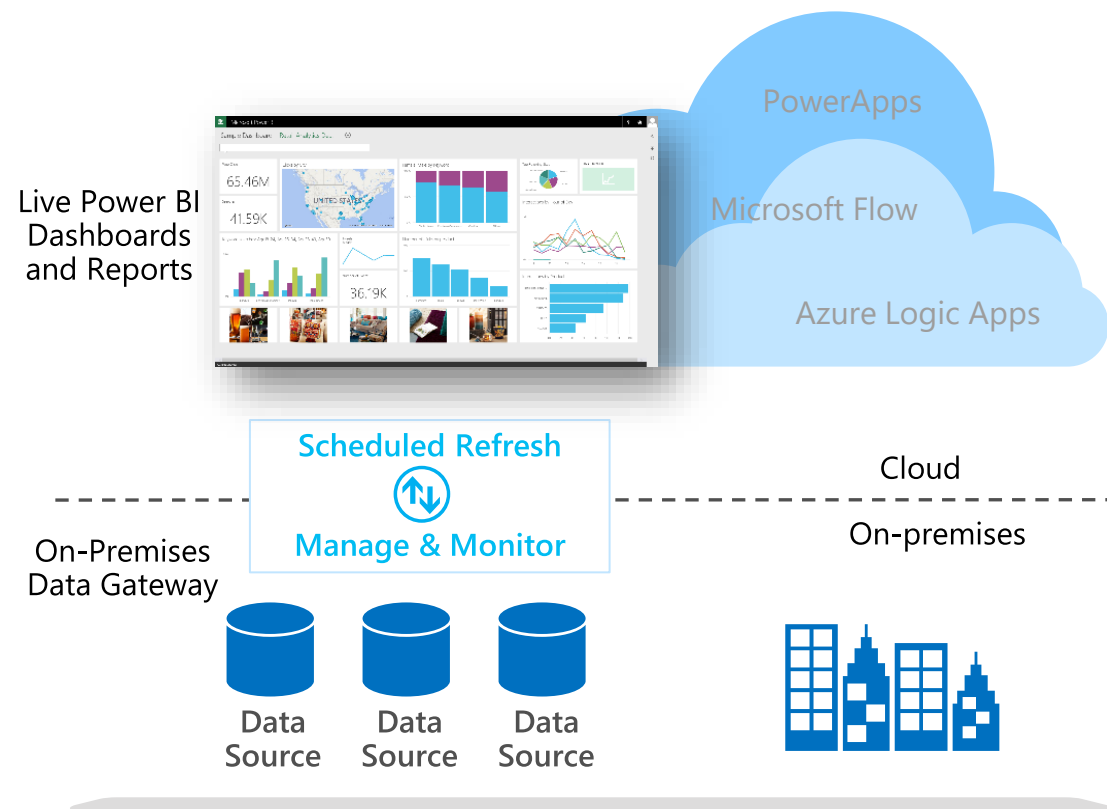
Keeping data current



Ease of use and adoption

Centralized data refresh with On-Premises Data Gateway

- IT departments can deploy and manage on-premise data access centrally
- BI governance: IT can monitor and audit usage
- Live, interactive query to on-premises data sources (e.g. SQL Server) and scheduled refresh
- One gateway for multiple cloud services and experiences: Power BI, PowerApps, Microsoft Flow, Azure Logic Apps
- Gateway recovery and restore features built-in



IT challenges



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Integration with existing environment



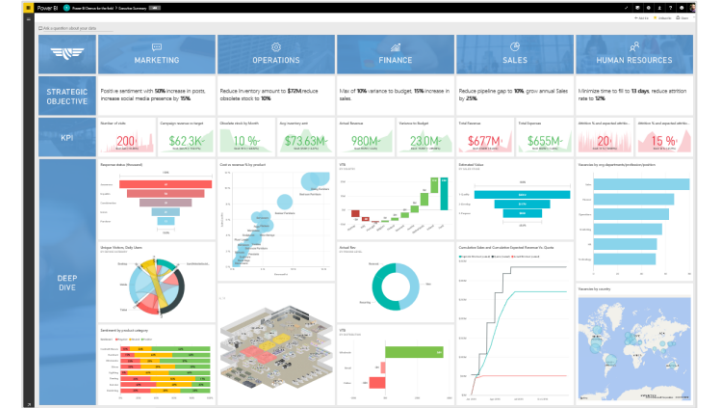
Keeping data current



Ease of use and adoption

Easy to use and drive adoption

- Easy to use
 - For end users: intuitive and interactive dashboards and reports
 - For BI analysts: familiar tools to create data models and reports
 - For IT: Administering Power BI tenants, users, and groups is the same as in Office 365
- Easy to share
 - End users can easily share dashboards and reports, inside and outside the organization
 - Collaborate with others in a group workspace
 - Create content packs and publish them to your organization



The screenshot shows the 'Create a Group' dialog box in Power BI. It has a 'Save' button and a 'Cancel' button at the top. The main section is titled 'Create a Group'. Below the title, there are several input fields and options: 'Name your group' with the value 'SalesReps', 'Group ID' with the value 'salesreps' and a status 'Available', 'Privacy' set to 'Private - Only approved members can see what's inside', and 'Members can edit Power BI content'. At the bottom, there is a section 'Add group members' with a text input 'Enter email addresses' and an 'Add' button.



Business Strategy

Innovation
Branding
Solution
Marketing
Analysis
Ideas
Success
Management

Technology

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