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STRATEGIC PARTNER



Building efficient and reliable Enterprise Reporting Platform with Microsoft Power BI

Radosław Łebkowski

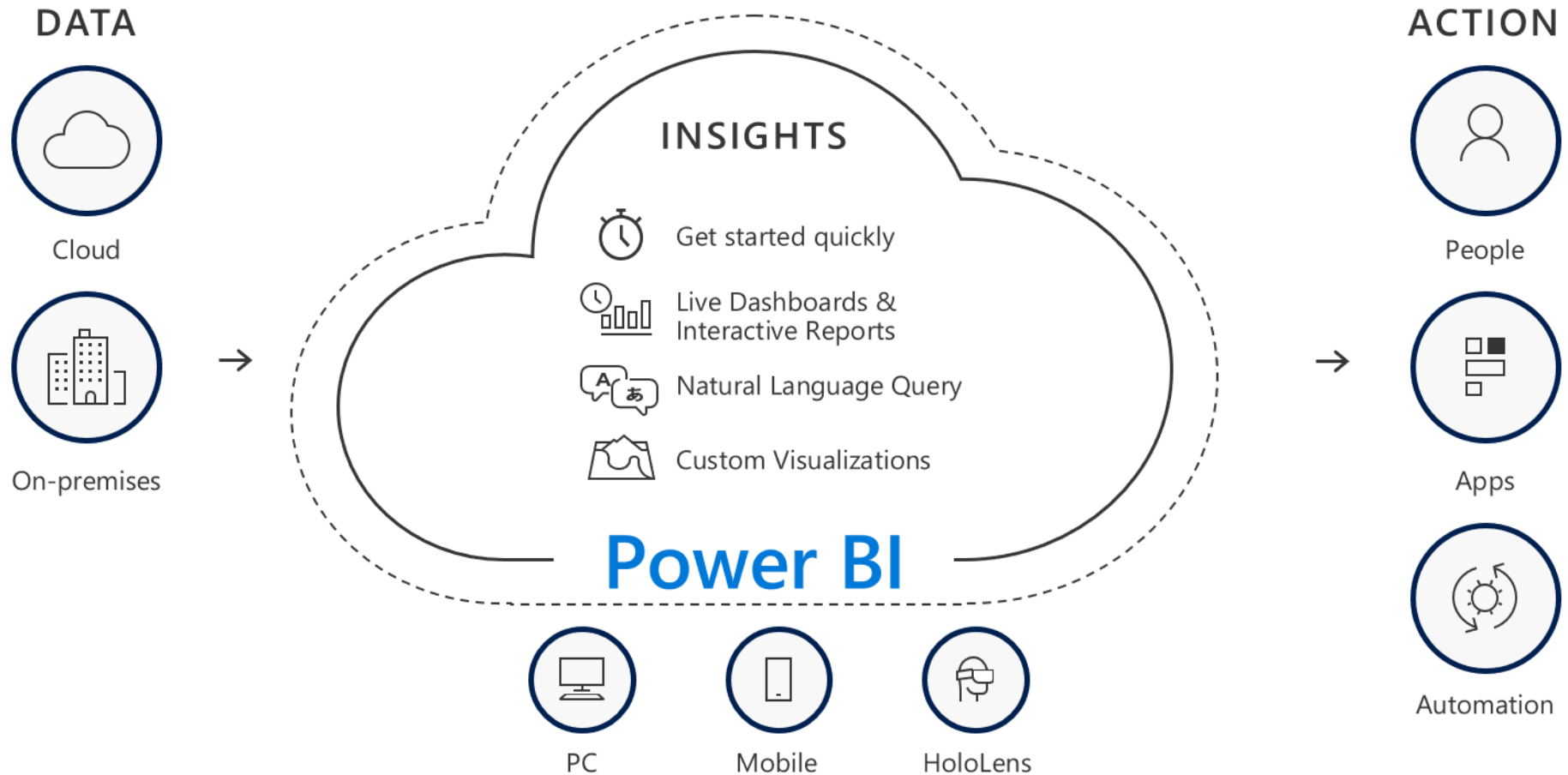
TSP Data Platform @ Microsoft

[Linkedin](#)

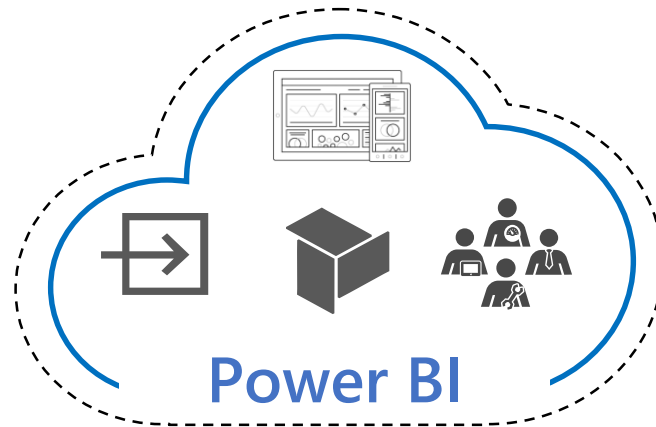
Agenda

- Power BI – dostępne opcje (Pro, Premium, Embedded)
- Nowości i trendy w rozwoju Power BI
- Data Governance w Power BI
 - Administracja i Monitoring
 - PBI Apps
 - jak zarządzać środowiskiem PBI w dużej organizacji
 - B2B sharing
- Bezpieczeństwo / GDPR
- Wydajność
 - PBI Premium, incremental refresh

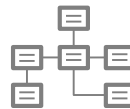
Power BI: Łatwa analiza dowolnych danych



"Intelligence Platform"



Aggregation,
unification and
orchestration of
data across
multiple sources



Standardization
and reuse of
schema and
business logic



Adapt,
optimize,
and execute
scenario
specific AI

Power BI portfolio

Power BI Desktop / Free

Licensed by user

Free report authoring and ad-hoc data exploration

Quick, easy-to-use self-service analytics for **personal use**

Power BI Pro

Licensed by user

Quick, easy-to-use **self-service** analytics for users requiring **collaboration**, dashboard sharing, ad hoc analysis, and report publishing

Power BI Premium

Licensed by capacity

An add-on to **Power BI Pro** for projects requiring **large scale data**, demanding **performance**, and the ability to distribute content without requiring per user licensing

Power BI Embedded (A-SKU)

Licensed by user/capacity

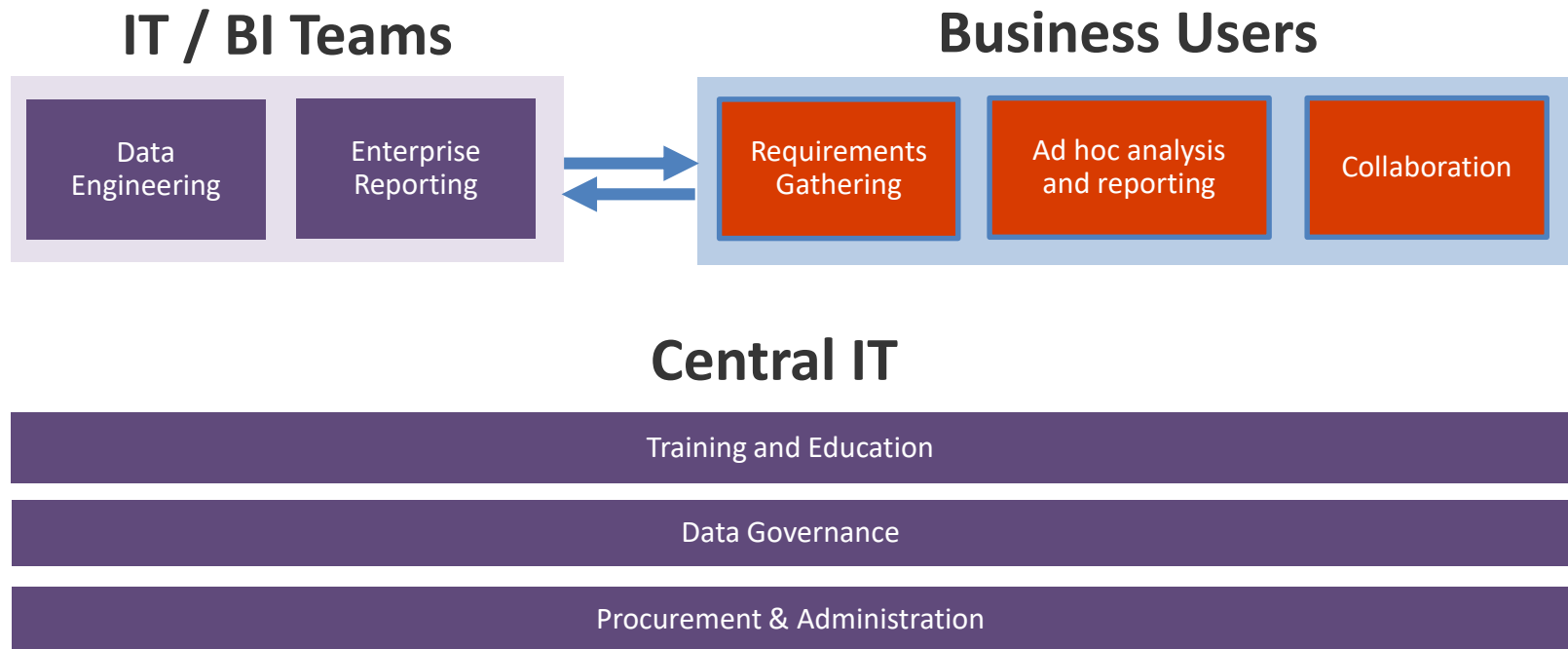
Consume Power BI reports in an **embedded application**

Azure capacity

<https://docs.microsoft.com/en-us/power-bi/service-premium>

<https://docs.microsoft.com/en-us/power-bi/developer/embedded-faq>

Administracja i zarządzanie danymi w organizacji



Power BI

Data Governance

Data Governance

Visibility

Understand
system state
and activity

Control

Enforce
policies for use
of the system

Compliance

Configure the
system to
achieve
compliance
requirements

Data Governance

Visibility

- Office 365 audit logs
- Admin usage solution template
- Admin APIs
- Admin Workspace Access

Control

- Granular admin controls
 - Publish to Web
- Power BI Workspaces
- Intune MAM
- AAD Conditional Access

Compliance

- Global commercial and sovereign clouds
- In-region audit logs
- GDPR-ready

Data Governance

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Admin APIs

Większy zakres uprawnień dla administratora (inwentaryzacja, akcje), niż zwykłego użytkownika

Dostępne jako REST API, C# library, and PowerShell

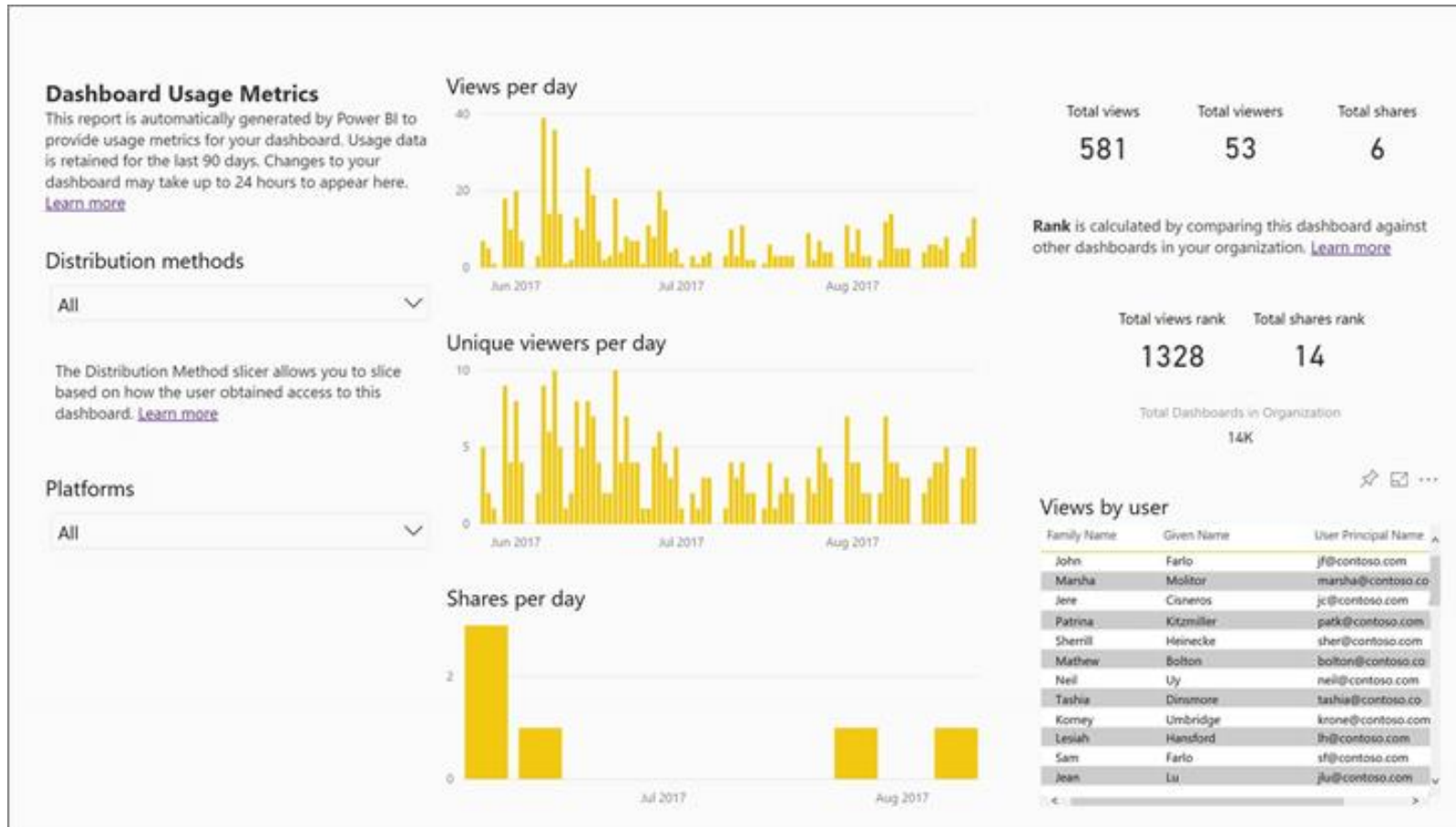
Przykłady:

Scenariusz: Jakie źródła danych on-premise są połączone z Power BI dataset ?

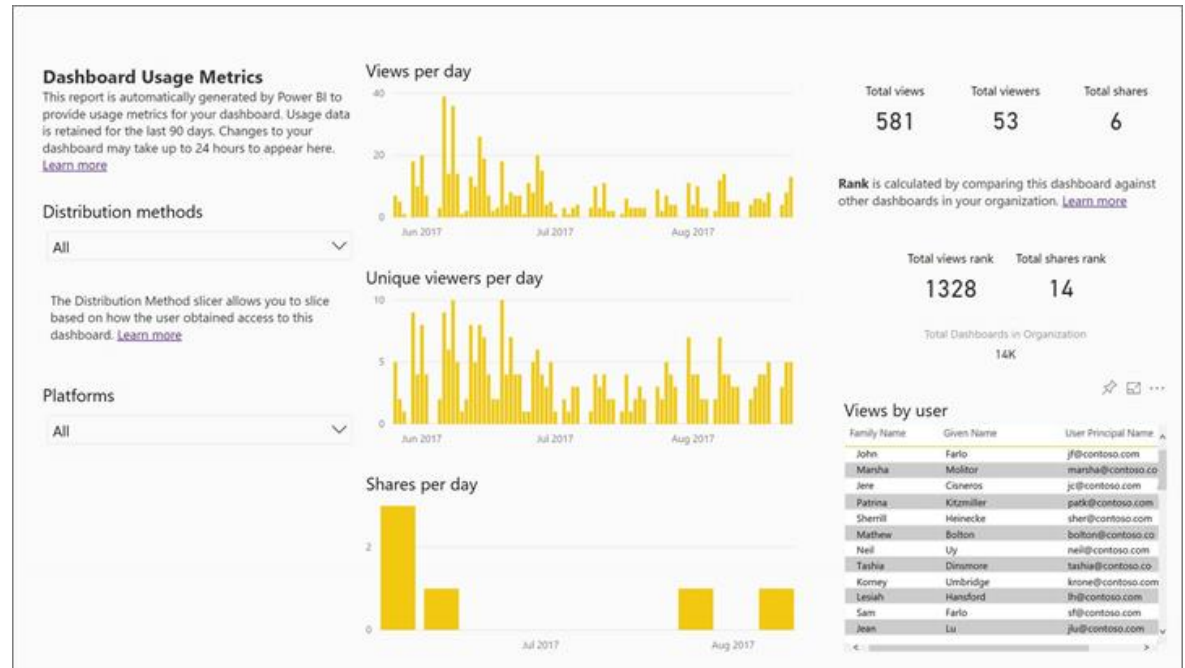
Użycie: [GetDatasourcesAsAdmin\(\)](#) API

...more coming soon

PBI usage metrics – dashboards & reports



<https://docs.microsoft.com/en-us/power-bi/service-usage-metrics>



Power BI Usage Metrics

DEMO

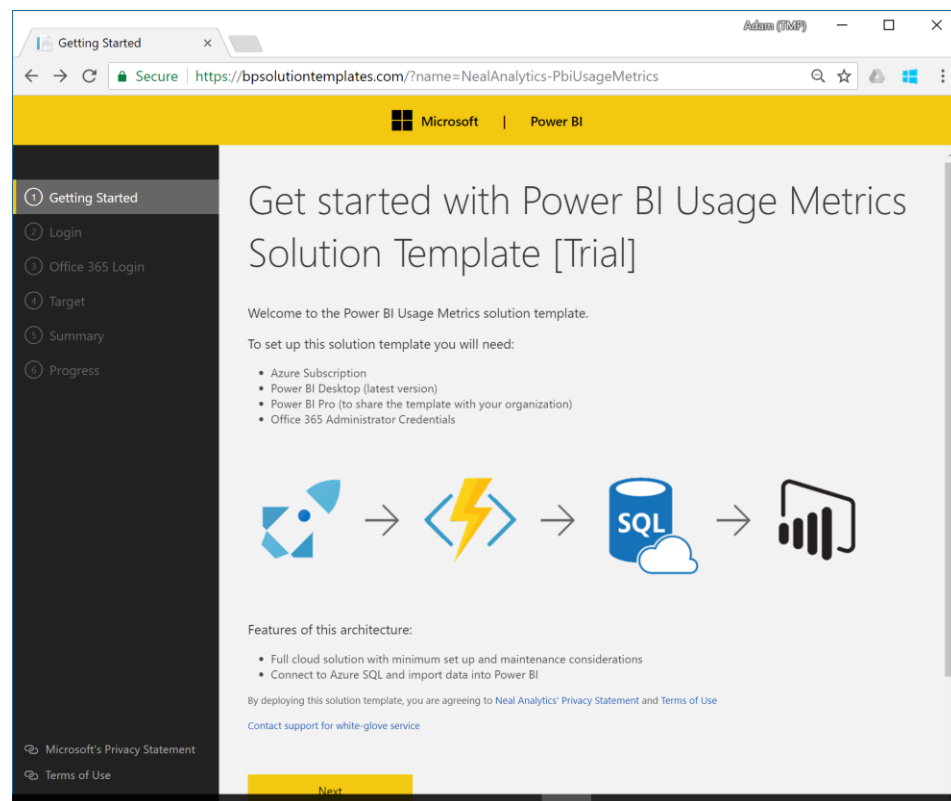
PBI usage metrics – ograniczenia

- Użytkownik widzi dane dotyczące obiektów (raportów/kokpitów), których jest właścicielem lub do których ma prawa edycji
- Obecnie nie wspiera monitorowania osadzonych obiektów PBI (user/app owns data, publish to web)
- Funkcja wymaga licencji Power BI Pro
- Odświeżenie danych – nawet do 24h
- Zawiera dane obiektów wykorzystywanych w okresie ostatnich 90 dni

Ekosystem rozwiązań wokół Admin API

Neal Analytics solution template

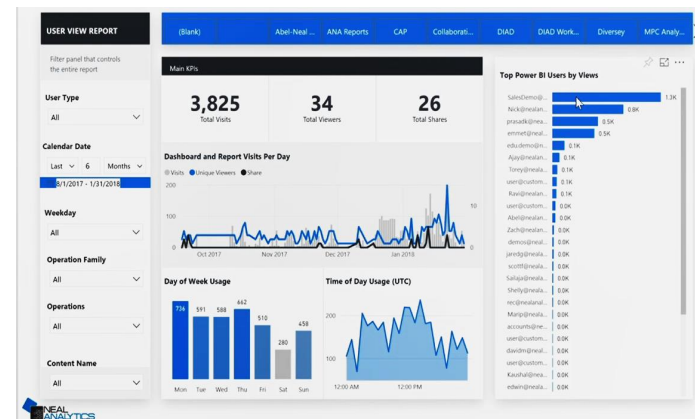
- wykorzystuje szereg API i źródeł logów
- korzysta dodatkowo z usług Azure do transformacji i przechowywania danych (LogicApps, Functions, SQL DB)
- podłączamy się z PBI do Azure SQLDB



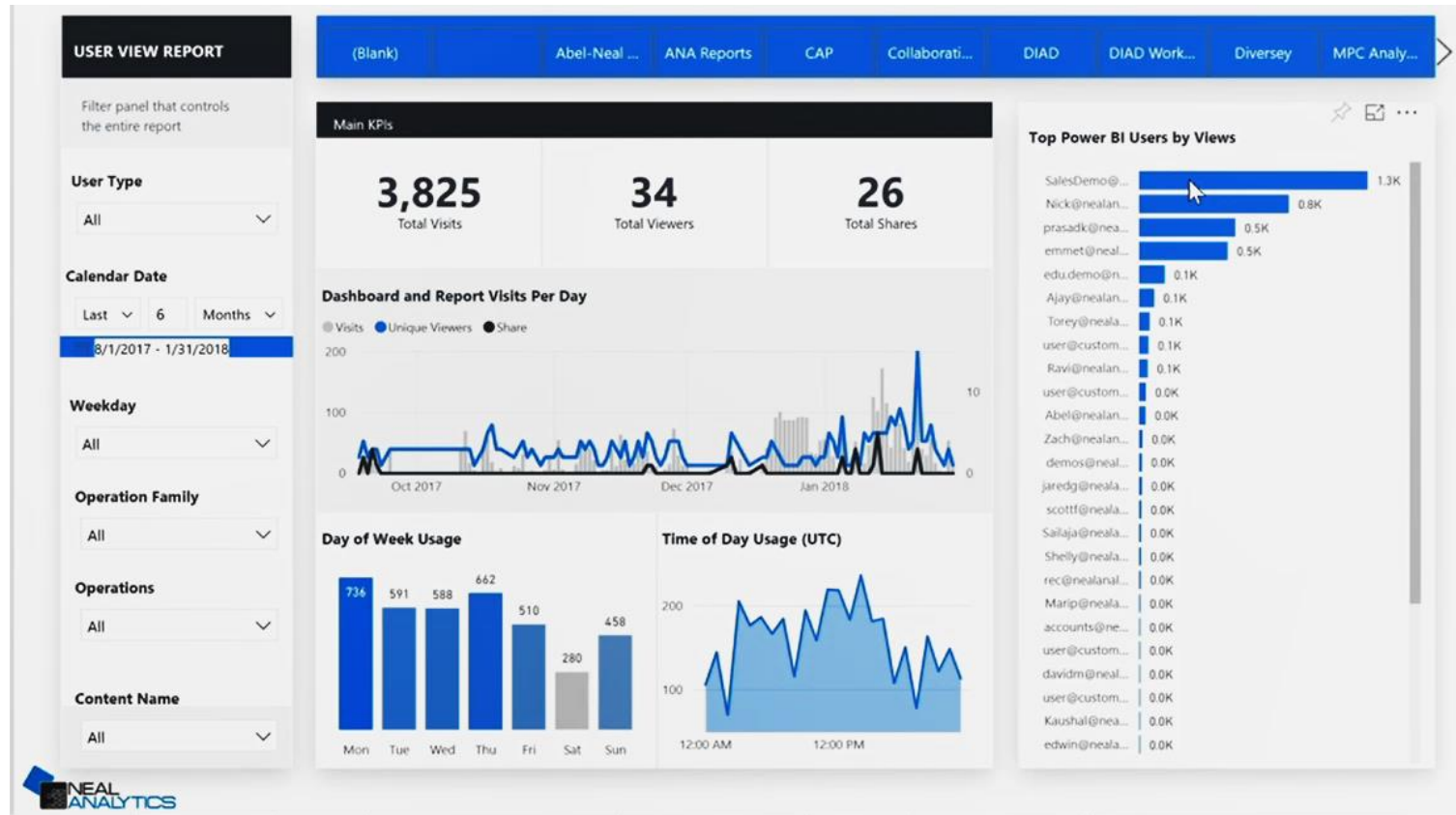
Power BI Usage Metrics Solution Template

Przykładowe scenariusze:

- Aktywni użytkownicy
- Historia i trend wykorzystania
- Wizyty /dzień/godzinę/dzień tygodnia
- Historia wizyt/aktywności danego użytkownika
- Audyt (np. kto usunął obiekt)
- Statystyki tworzenia nowych i modyfikacji obiektów
- Statystyki dot. ekstrakcji danych (drukowanie, eksport etc.)
- Data Lineage
 - w jakich raportach wykorzystywane są dane z bazy Sales
 - jakie raporty obciążają moje systemy on-premise



DEMO - PBI Usage Metrics Solution Template



Getting Started

PBIUsageMetrics-Demo

Secure

https://app.powerbi.com/groups/me/apps/001a336e-b0f0-4391-a613-16ffa1a34310/reports/967f700e-9f9b-4940-aa22-623ac418c2e1/ReportSection188099a7b97ee8c98838?ctid=4fd354cb-e...

Apps

PBI TFS

Support Dashboard

PBI Blog

PBI Trains

PBI NPS

PBI NPS

Reading

Evernote

iOS 10

DXT

c

T

Nav Bug

New Scenario

MSIT

OnCall

OneR

Power BI

Apps > Power BI Telemetry > PBIUsageMetrics-Demo

File

View

Edit report

Explore

Refresh

View

USAGE REPORT

Filter panel that controls the entire report

User Type

All

Calendar Date

Last6Months

8/1/2017 - 1/31/2018

Weekday

All

Operation Family

All

Operations

All

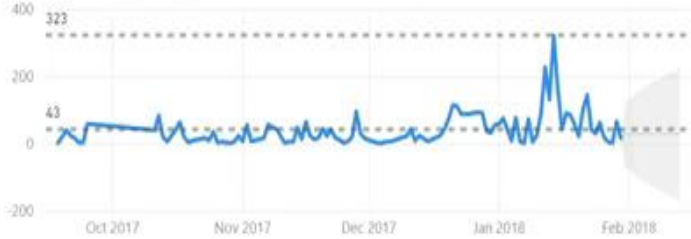
Content Name

All

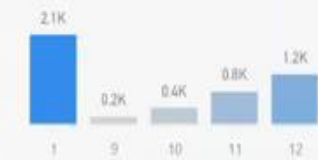
HISTORIC DASHBOARD TRENDS

Select a WorkspaceAll


Historic Trend w/ 14 Day Forecast




Monthly Usage



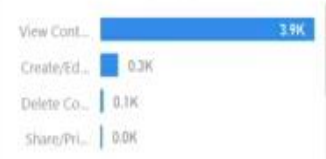
Day of Week Usage



Dashboards In Use



Operations Taking Place



POWER BI USERS

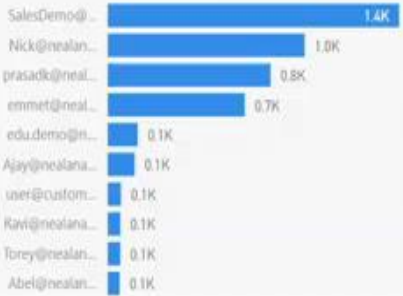
Main KPIs

34Total Users

23Active Users

11Inactive Users

Power BI Top Ten Active Users



Inactive Users

User ID	Days Ago	Last Activity
cmid@nealanalytics.com	105	2017-10-17
rec@nealanalytics.com	104	2017-10-18
luis@nealanalytics.com	98	2017-10-24
davidb@nealanalytics.com	84	2017-11-07
Marip@nealanalytics.com	77	2017-11-14
arcademo@nealanalytics.com	69	2017-11-22
tccc@nealanalytics.com	69	2017-11-22
user@customer04.com	67	2017-11-24

NEAL ANALYTICS

Intro

Usage Report

User Views

User Details

Apps

Content Creation & Deletion

Content Extraction

About

Post Deployment

Data Governance

Visibility

- Office 365 audit logs
- Admin usage solution template
- Admin APIs
- Admin Workspace Access

Control

- Granular admin controls
 - Publish to Web
- Power BI Workspaces
- Intune MAM
- AAD Conditional Access

Compliance

- Global commercial and sovereign clouds
- In-region audit logs
- GDPR-ready

Granular admin controls

The image shows a screenshot of the 'Admin portal' interface. On the left, a sidebar lists navigation options: 'Usage metrics', 'Manage users', 'Audit logs', and 'Tenant settings'. The 'Tenant settings' option is highlighted with a red rectangular box. The main content area is divided into three sections: 'Export and sharing settings', 'Content pack settings', and 'Integration settings'. The 'Export and sharing settings' section is expanded, showing a list of controls: 'Share content to external users' (Enabled for a subset of the organization), 'Publish to web' (Enabled for the entire organization), 'Export data' (Disabled for the entire organization), 'Export reports as PowerPoint presentations' (Enabled for a subset of the organization), and 'Print dashboards and reports' (Enabled for a subset of the organization). A modal window is open over the 'Share content to external users' setting, providing a detailed configuration interface. This modal includes a title 'Share content to external users' with a red 'Unapplied changes' indicator, a description 'Users in the organization can share dashboards with users outside the organization.', and a toggle switch set to 'Enabled'. Below the toggle, the 'Apply to:' section has two radio button options: 'The entire organization' and 'Specific security groups', with the latter being selected. There are two input fields for security groups: the first contains 'Power BI Authors' and the second contains 'Finance Department', both with an 'X' icon to clear the input. At the bottom of the modal are 'Apply' and 'Cancel' buttons.

Admin portal

- Usage metrics
- Manage users
- Audit logs
- Tenant settings**

Export and sharing settings

- ▶ Share content to external users
Enabled for a subset of the organization
- ▶ Publish to web
Enabled for the entire organization
- ▶ Export data
Disabled for the entire organization
- ▶ Export reports as PowerPoint presentations
Enabled for a subset of the organization
- ▶ Print dashboards and reports
Enabled for a subset of the organization

Content pack settings

- ▶ Publish content packs to the entire organization
Enabled for a subset of the organization
- ▶ Create template organizational content packs
Enabled for the entire organization

Integration settings

- ▶ Ask questions about data using Cortana
Enabled for the entire organization
- ▶ Use Analyze in Excel with on-premises datasets
Enabled for a subset of the organization

Share content to external users

Unapplied changes

Users in the organization can share dashboards with users outside the organization.

☒ Enabled

Apply to:

- ☐ The entire organization
- ☒ Specific security groups

Power BI Authors X Enter security groups

☒ Except specific security groups

Finance Department X Enter security groups

Apply Cancel

Share content to external users

Unapplied changes

Users in the organization can share dashboards with users outside the organization.

☒ Enabled

Apply to:

☐ The entire organization

☒ Specific security groups

Power BI Authors X Enter security groups

☒ Except specific security groups

Finance Department X Enter security groups

Apply

Cancel

Granular admin controls
Publish to Web

DEMO

Evolving Workspaces in Power BI

Groups building blocks



Wyzwania

- Współpraca w małych grupach
- Administratorzy BI bez dostępu do O365 Tenant Admin (wymagane zgody)
- Zarządzanie w kilku miejscach

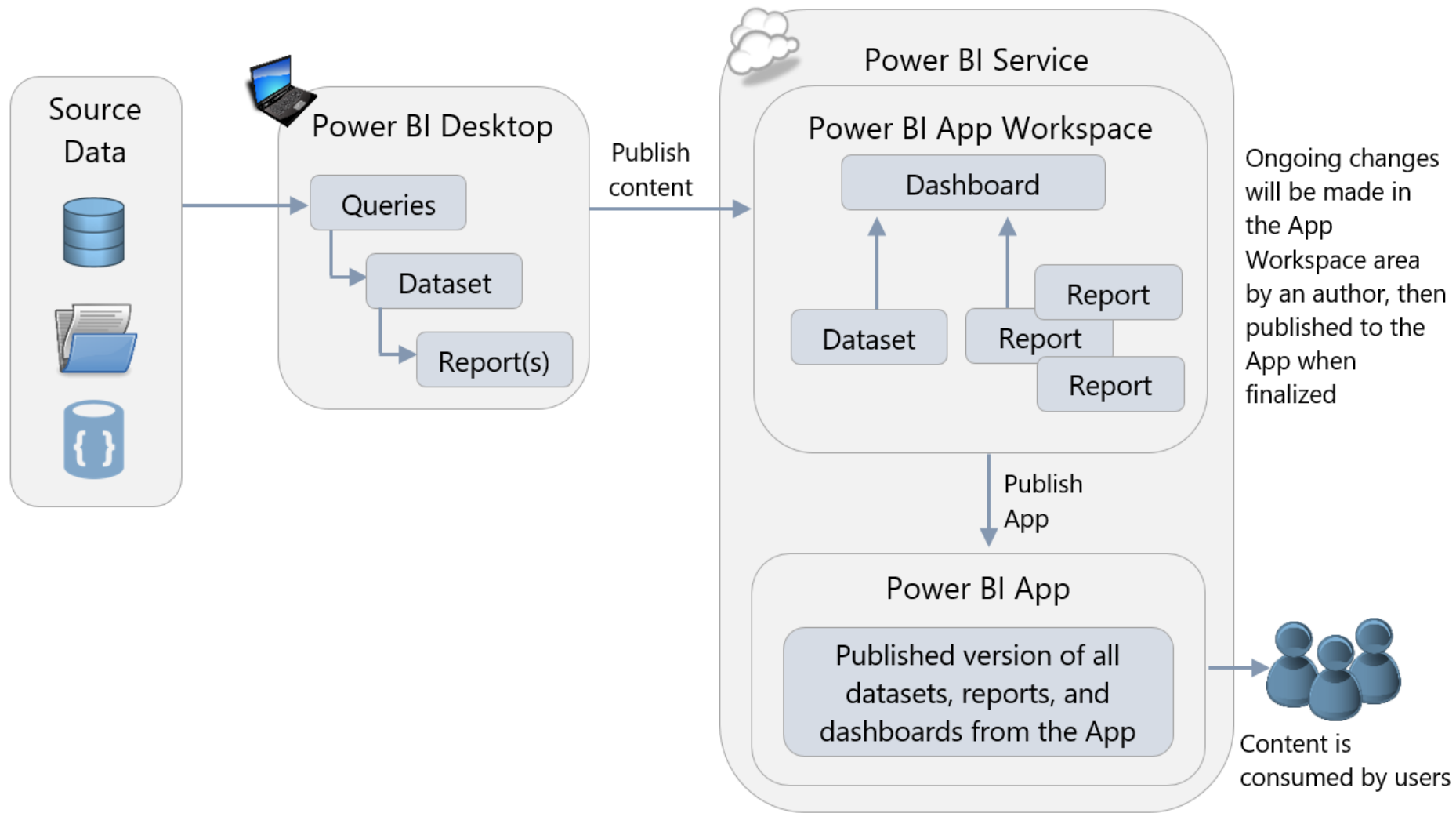
Dystrybucja do dużych grup odbiorców

- Apps
- Push Apps
- B2B
- B2B consumer domains

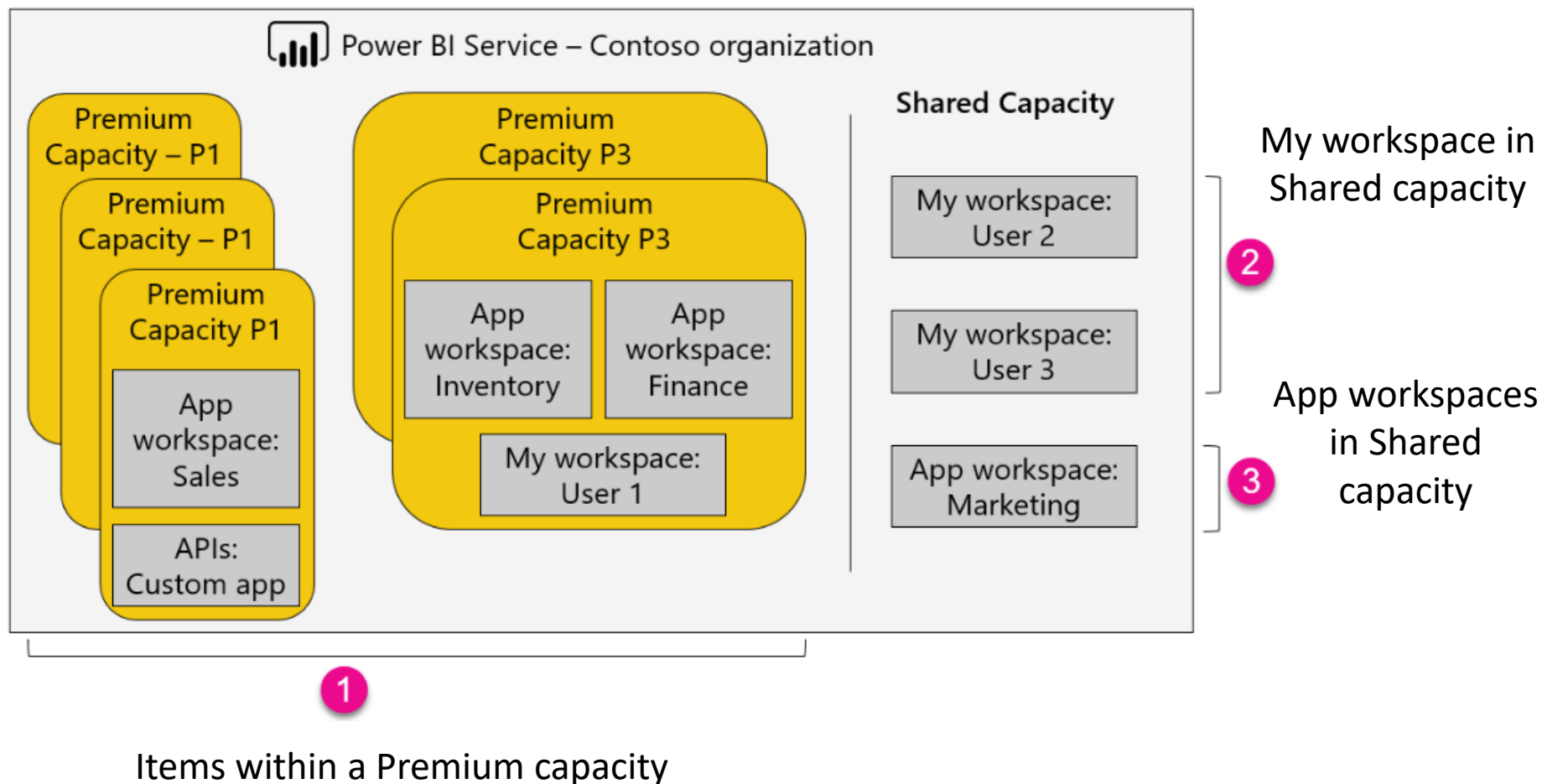
Sposoby udostępniania raportów w PBI

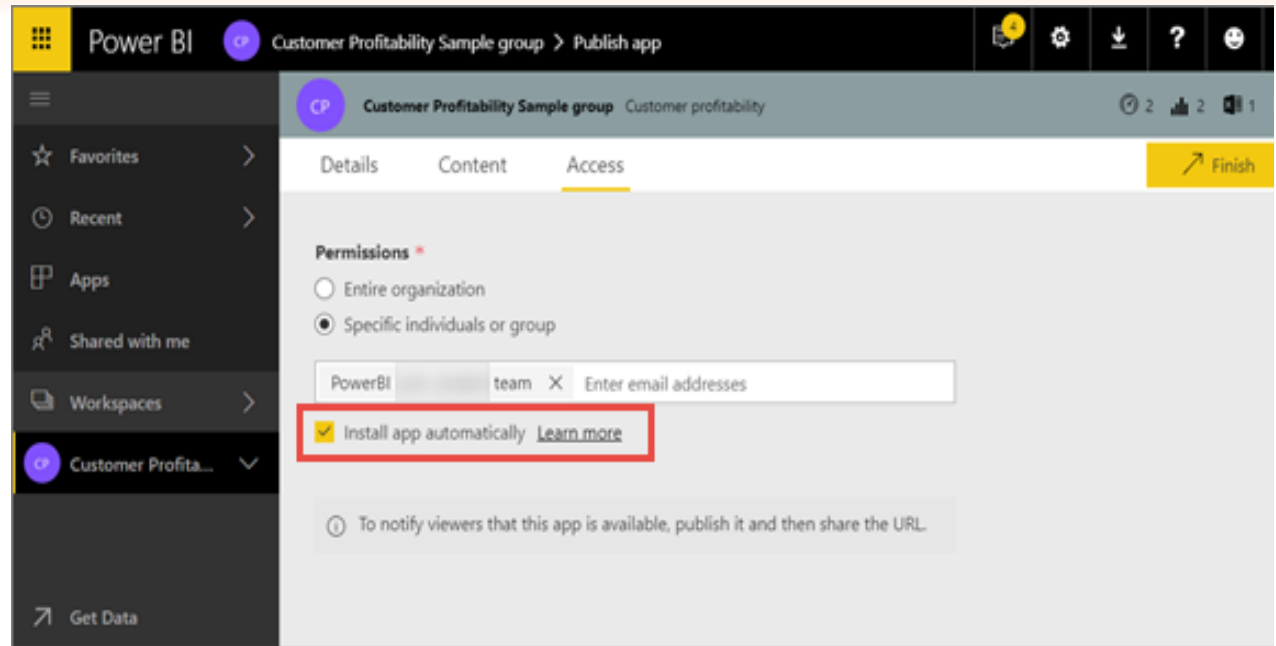
- Współdzielenie Peer to Peer
- Współdzielenie z **App Workspaces** (mniejsze grupy)
- Przygotowanie i udostępnienie via **Power BI Apps** (duże grupy)
- Współdzielenie z aplikacji mobilnych (notatki)
- **Publish to the web** (nielimitowany dostęp!)
- Drukowanie / PDF / PPTX (raporty statyczne)
- PBI Content Packs - wycofywane

Power BI Apps



Udostępnianie raportów dla użytkowników nie posiadających licencji PBI Pro





PBI Push Apps

DEMO

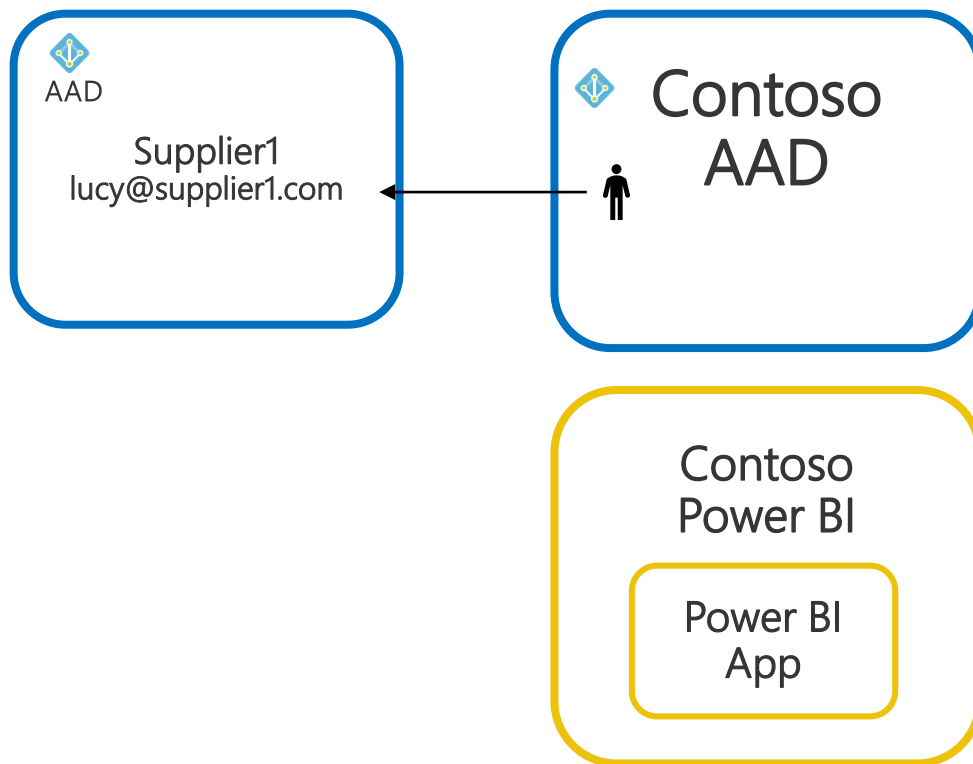
Dlaczego B2B ?

- 20% dużych wdrożeń BI znacząco wykorzystuje udostępnianie raportów na zewnątrz organizacji
- Wykorzystując **AAD B2B** oferujemy kompletne, unikalne i bezpieczne rozwiązanie:
 - obsługa wielu odbiorców
 - użytkownicy AAD,
 - użytkownicy spoza AAD,
 - użytkownicy-konsumenci (consumer users),
 - wsparcie dla funkcjonalności ,enterprise' Power BI (np. RLS)
 - wsparcie dla conditional access policies (np. wymuszenie 2FA jeśli jest wymagane)
 - łatwa obsługa cyklu życia użytkownika (offboarding)

Udostępnianie via B2B

- Wykorzystuje mechanizm udostępniania via PBI App
- Użytkowników można zaprosić z AAD Portalu, PowerShell-a lub z Power BI
- Użytkownicy logują się własnym kontem
- B2B może wykorzystywać Premium Workspace lub licencje Pro (własnej organizacji lub organizacji użytkownika-gościa)

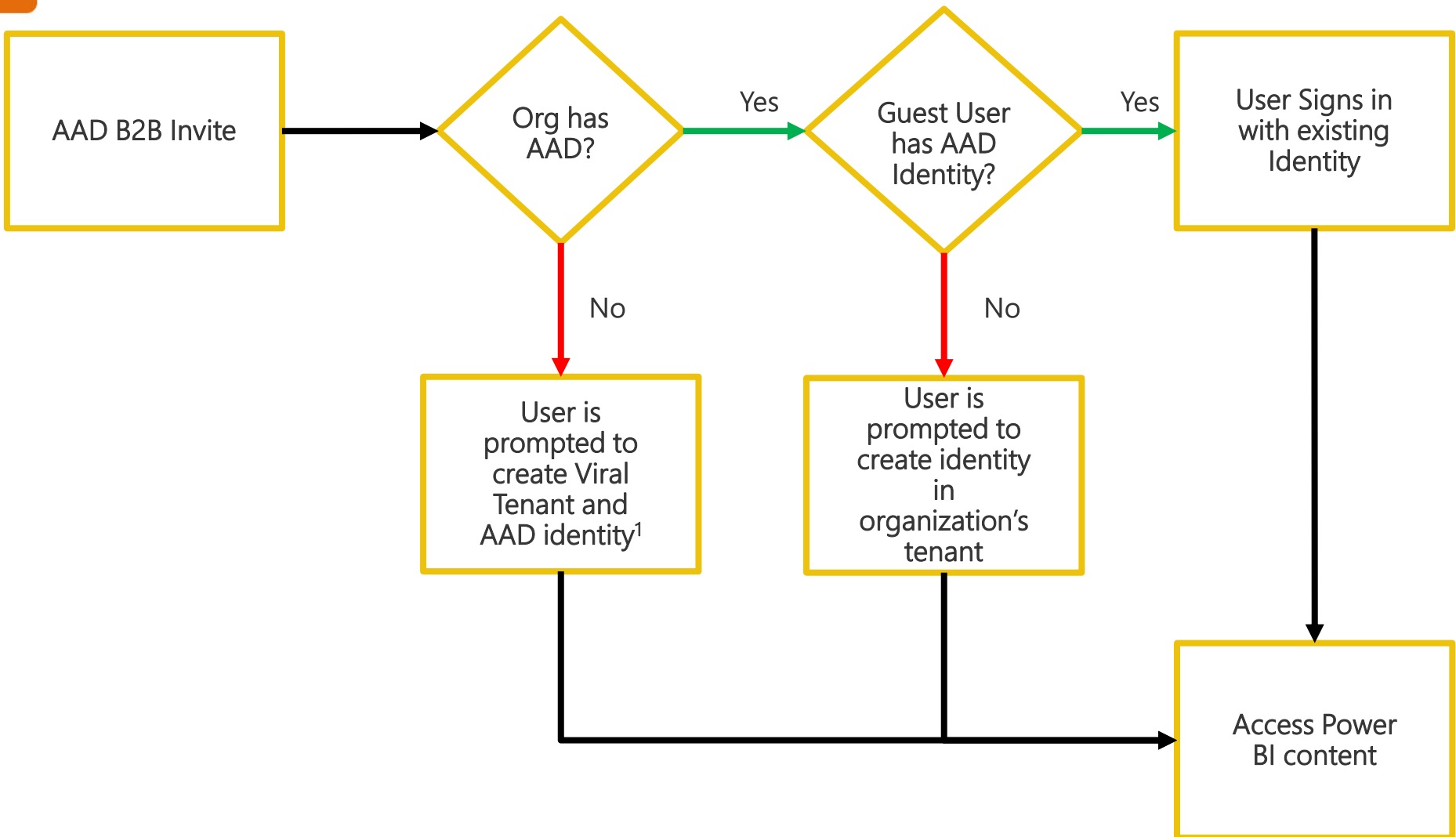
B2B wykorzystuje istniejące konta z AAD



- 1 Contoso invites guest users from suppliers
- 2 Guest users accepts invite
- 3 Guest user objects are created in Contoso's AAD

<https://docs.microsoft.com/pl-pl/power-bi/service-admin-azure-ad-b2b>

A jeśli konto nie istnieje w AAD ?



B2B & RLS

Manage roles

Roles

EuropeRole ...

NARole ...

Create Delete

Tables

DimCurrency ...

DimCustomer ...

DimDate ...

DimPromotion ...

DimSalesTerritory ...

FactInternetSales ...

Maps ...

Months ...

Table filter DAX expression

✓ ✕

DimSalesTerritory[SalesTerritoryGroup] = "Europe"

Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"

Save Cancel

B2B & RLS

Sales B2B

LAST REFRESH SUCCEEDED:

Fri Oct 27 2017 14:54:00 GMT+0200 (W. Europe Daylight Time)

Refresh schedule is not enabled.

RENAME

REMOVE

SCHEDULE REFRESH

REFRESH NOW

ANALYZE IN EXCEL

DOWNLOAD .PBIX

SECURITY

MANAGE PERMISSIONS

Row-Level Security

EuropeRole (0)

NARole (0)

Members (0)

People or groups who belong to this role

adam@themeasuredproduct.co

adam adam_themeasuredproduct.com#...

Add

B2B & On-prem Data Sources (via Gateway)

Map user names

Create rules to map user names to Analysis Services server user names or associate custom data with user names. [Learn more](#)

Select the type of rule for this data source

☒ Effective user names
☐ CustomData

	Replace	With
1	lucy@supplier1.com	lucy_supplier1_com#EXT@contoso.com
2	*	external@contoso.com
3	Original name	New name

⌵ ⌶

Enter user name to see how the mapping rule will change it.

Original name

After rule applied

lucy_supplier1_com#EXT@contoso.com

Ograniczenia B2B

- Zewnętrzni goście B2B są ograniczeni tylko do korzystania z zawartości. Mogą wyświetlać aplikacje, pulpity nawigacyjne i raporty, eksportować dane oraz tworzyć subskrypcje e-mail dla pulpitów nawigacyjnych i raportów. Nie mogą uzyskiwać dostępu do obszarów roboczych ani publikować własnej zawartości.
- Brak wsparcia w aplikacjach mobilnych Power BI (pozostaje dostęp przez przeglądarkę).
- Stosowanie użytkowników-gości z usługą Power BI nie jest obsługiwane w suwerennych chmurach (dla instytucji rządowych).

Data Governance

Visibility

- Office 365 audit logs
- Admin usage solution template
- Admin APIs
- Admin Workspace Access

Control

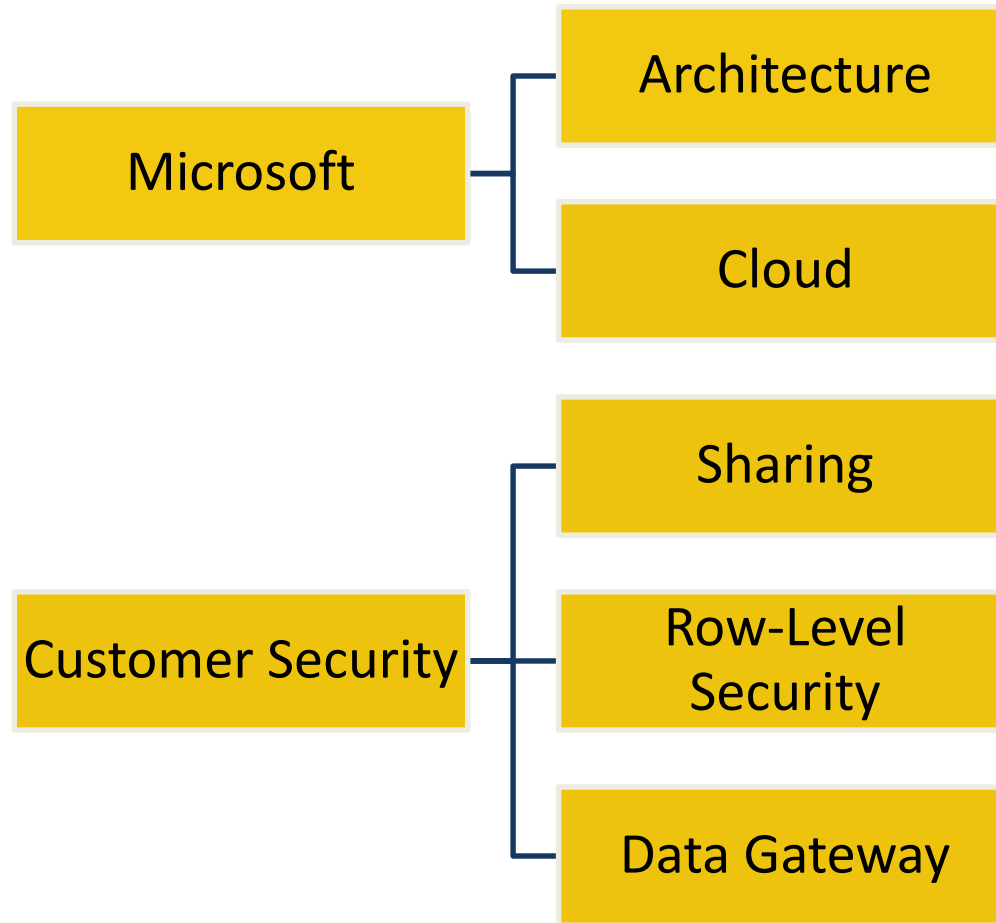
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Power BI Security + GDPR

Security – zakres odpowiedzialności



Power BI & GDPR

Power BI i platforma Microsoft oferują szereg **ułatwień** pozwalających spełnić wymagania **GDPR**.

Wymagają jednak **dodatkowego zaangażowania** ze strony organizacji.

Power BI & GDPR

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Wymagają jednak **dodatkowego zaangażowania** ze strony organizacji.

Power BI & GDPR

Discover

- Azure Data Catalog
- Wyszukiwarka w Power BI Service
- Wyszukiwarka/API dla administratorów w Power BI Service
- Źródła danych z reguły utrzymywane niezależnie od Power BI (niezależne przeszukiwanie i kontrola)
- opcjonalnie: Office 365 search + klasyfikacja obiektów

Power BI & GDPR

Manage

- RLS
- App Workspaces (dostęp)
- Custom workflows (MS Flow, Sharepoint Online)
- Usuwanie danych personalnych (najpierw ze źródeł, a potem auto-refresh w PBI)

Power BI & GDPR

Protect

- Microsoft privacy polices
- compliance & certificates (ISO 27001, ISO 27017, ISO 27018, SOC 1 Type 2 and SOC 2 Type 2)
- szyfrowanie danych (HTTPS, TCP/IP, TLS)
- Mechanizmy wykrywania ataków/ujawnienia danych

Power BI & GDPR

Report

- Mechanizmy audytu i monitorowania
- Azure logging (np. dla PBI Embedded)
- kontrola miejsca przetwarzania danych (PBI Premium multi-geo)

Power BI Data classification

Customer Profitability Sample

HB

Ask a question about your data

Data classification for dashboards and reports ⓘ

☒ On ☐ Off

DEFAULT	CLASSIFICATION	SHORTHAND	SHOW TAG	URL	
<input type="radio"/>	High Business Impact	HB	<input checked="" type="checkbox"/>	https://microsoft.sharepoint	
<input checked="" type="radio"/>	Medium Business Impact	MB	<input type="checkbox"/>		
<input type="radio"/>	Low Business Impact	LB	<input checked="" type="checkbox"/>		
+ Add classification					

Apply

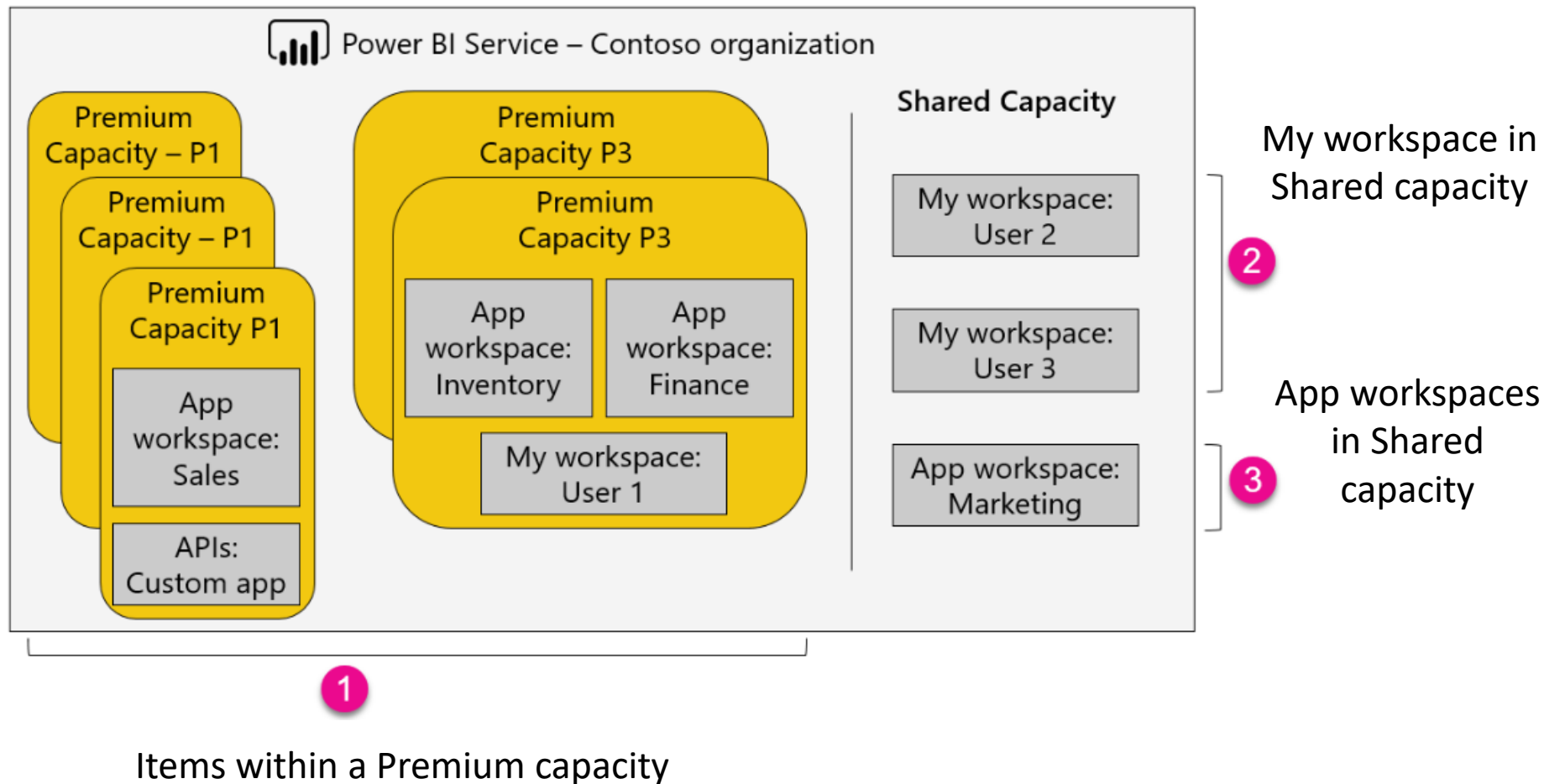
Cancel

Power BI Performance

Optymalizacja wydajności

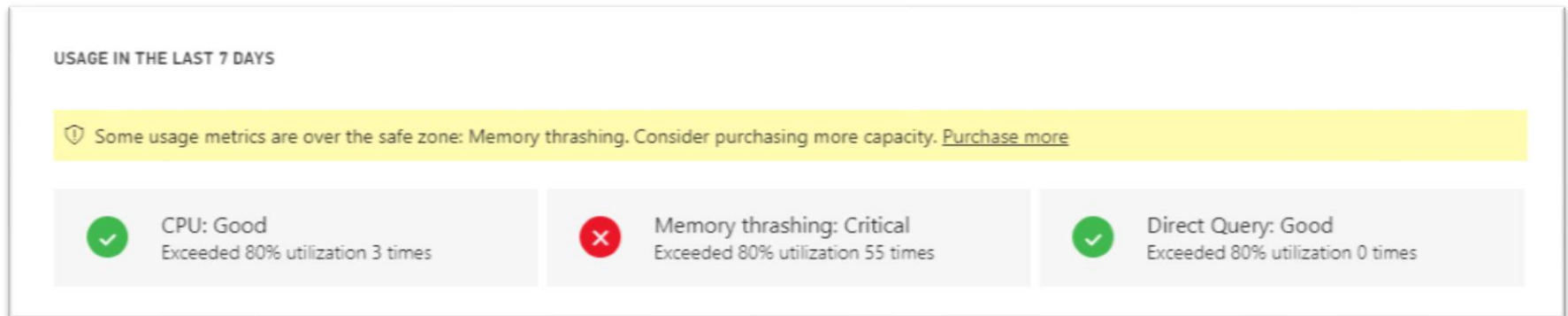
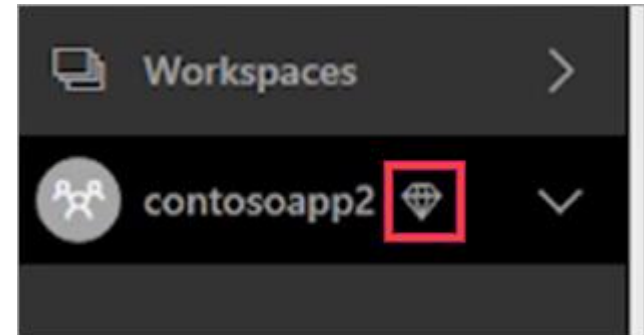
- Power BI Premium / Embedded
 - monitoring
 - skalowalność w przypadku większego obciążenia (Cloud)
- Wydajność po stronie źródeł danych (np. Azure) + Direct Query
- Incremental Refresh [New]

Power BI Premium

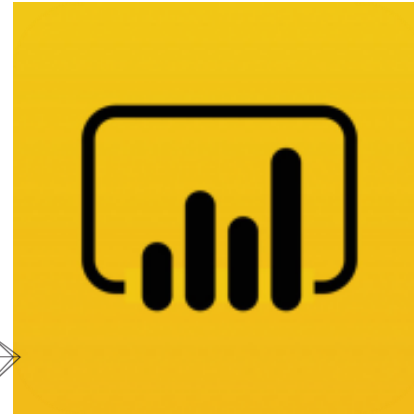
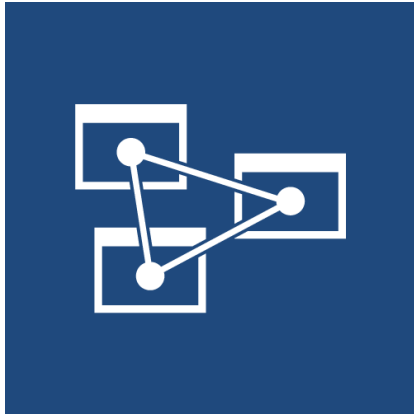


Power BI Premium Monitoring

- Assign a workspace to a capacity
 - The entire organization's workspaces
 - Specific workspaces by user



Analysis Services => Power BI



Incremental vs. full refresh dla dużych zbiorów

- Znacznie szybsze
- Mniejsze zużycie pamięci/CPU
- Bardziej niezawodne

Clipboard | Test credentials store - Query Editor

File Home Transform Add Column View Help

Close & Apply | New Source | Recent Sources | Enter Data | Data source settings | Manage Parameters | Refresh Preview | Properties | Advanced Editor | Manage | Choose Columns | Remove Columns | Keep Rows | Remove Rows | Sort | Split Column | Group By | Data Type: Whole Number | Use First Row as Headers | Replace Values | Merge Queries | Append Queries | Combine Files

Queries [10]

- FactInternetSales
- DimCurrency
- DimCustomer
- DimDate
- DimProduct
- DimPromotion
- DimSalesTerritory
- FactInternetSalesReason
- RangeStart (...)
- RangeEnd (...)

This preview may be up to 44 days old. Refresh

fx = Table.SelectRows(dbo_FactInternetSales, each [OrderDate] >= RangeStart and [OrderDate] < RangeEnd)

	ProductKey	OrderDateKey	DueDateKey	ShipDateKey	CustomerKey	PromotionKey	CurrencyKey
1	310	201101229	201101110	20110105	21768	1	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15	314	20110101	20110113	20110108	27606		
16	311	20110101	20110113	20110108	13513		
17	310	20110102	20110114	20110109	27601		
18	311	20110102	20110114	20110109	13591		
19	314	20110102	20110114	20110109	16483		
20	311	20110102	20110114	20110109	16529		
21	336	20110102	20110114	20110109	25249		
22	311	20110103	20110115	20110110	27668		
23	312	20110103	20110115	20110110	27612		
24	311	20110103	20110115	20110110	13264		

Filter Rows

☒ Basic ☐ Advanced

Keep rows where 'OrderDate'

is after or equal to RangeStart

☒ And ☐ Or

is before RangeEnd

OK Cancel

QUERY SETTINGS

PROPERTIES

Name

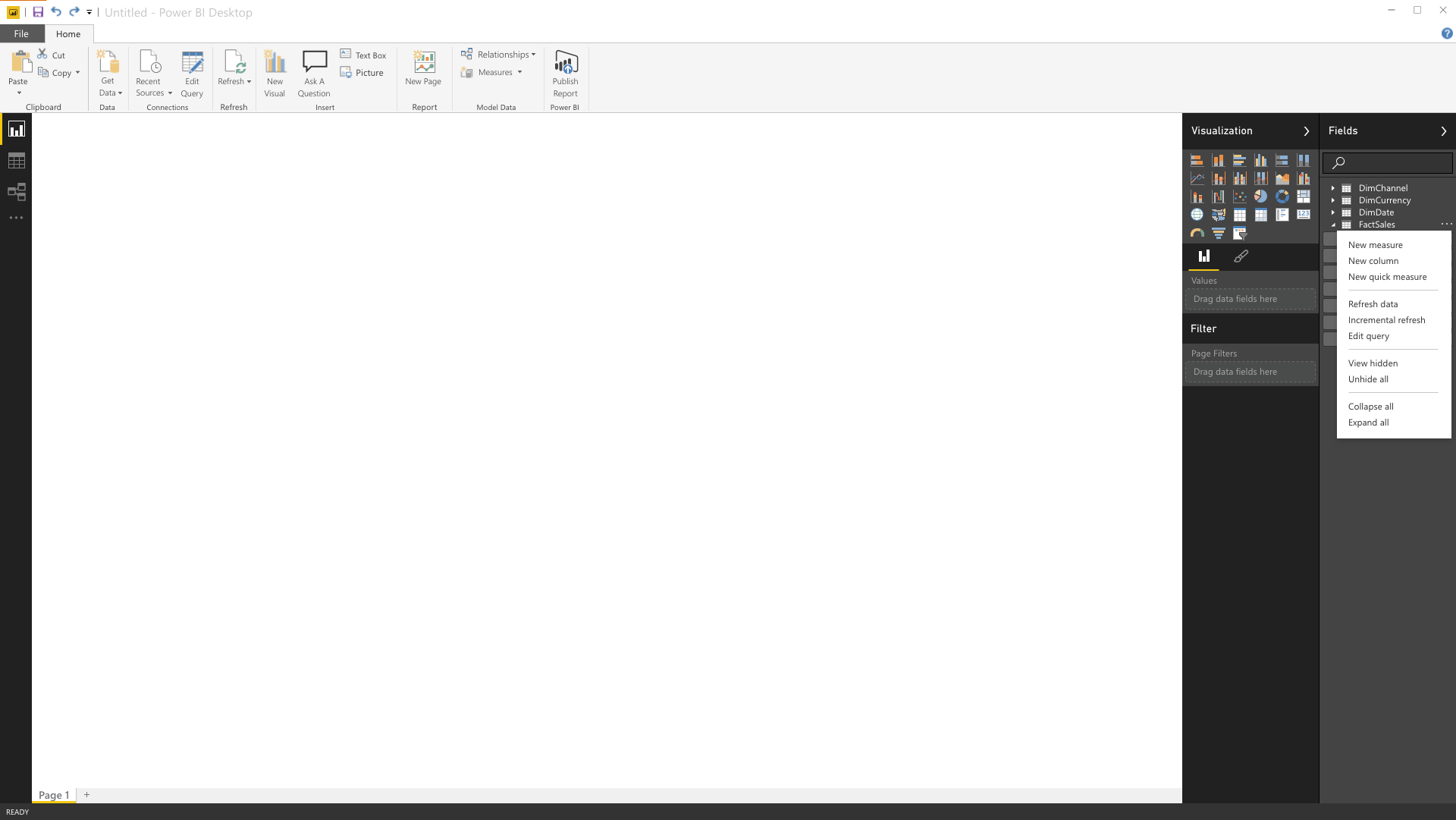
FactInternetSales

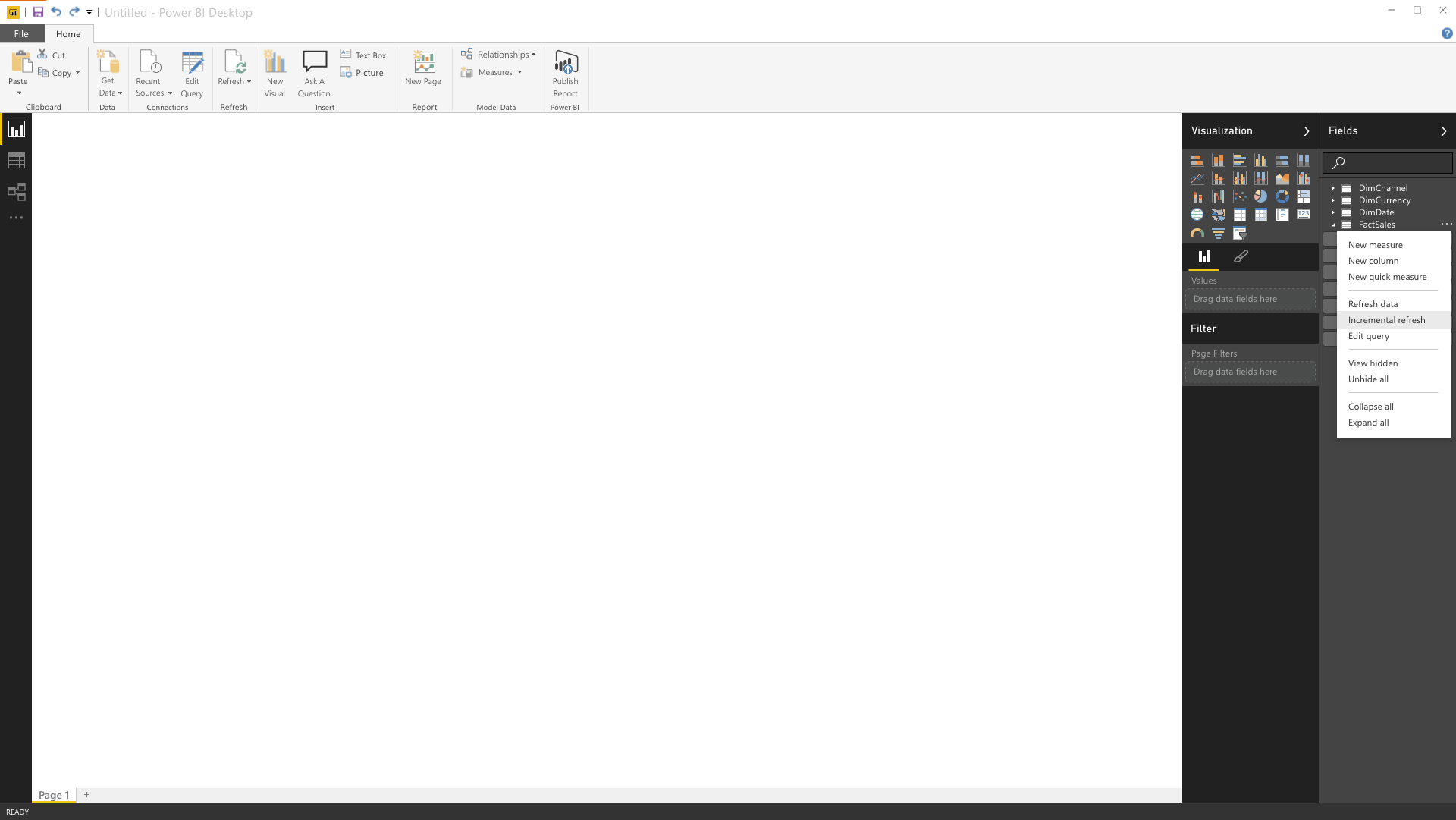
All Properties

APPLIED STEPS

- Source
- Navigation
- Filtered Rows

Parametry M filtrują dane załadowane do PBI Desktop i wykorzystywane są do partycjonowania (po publikacji w usłudze PBI)





Incremental refresh

You can improve the speed of refresh for large tables by using incremental refresh in Premium workspaces. This setting will apply once you've published a report to the Power BI service. [Learn more](#)

① Once you've deployed this table to the Power BI service, you won't be able to download it back to Power BI Desktop. [Learn more](#)

Table

Trip data

On

Store rows where column "Trip Date" is in the last:

5 Years

Refresh rows where column "Trip Date" is in the

10 Days

☐ Detect data changes [Learn more](#)

☐ Only refresh complete periods [Learn more](#)

Apply

Cancel

Visualization

Fields



Values

Drag data fields here

Filter

Drag data fields here

Page Filters

Drag data fields here

DimChannel
DimCurrency
DimDate
FactSales
CountryCode
SalesAmount
SalesKey
SalesQuantity
TaxAmt
TotalProductCost
UnitCost

FileHome

PasteCutCopy

Get DataRecent SourcesEdit QueryRefreshIncremental RefreshNew VisualAsk A QuestionText BoxPicture

New PageRelationshipsMeasuresPublish ReportPower BI

ClipboardDataConnectionsRefreshInsertReportModel DataPower BI

Untitled - Power BI Desktop

Visualization

Fields

DimChannelDimCurrencyDimDateFactSalesCountryCodeSalesAmountSalesKeySalesQuantityTaxAmtTotalProductCostUnitCost

Incremental refresh

⚠ Before you can set up incremental refresh, you need to set the parameters here. Set up parameters

You can improve the speed of refresh for large tables by using incremental refresh in Premium workspaces. This setting will apply once you've published a report to the Power BI service. [Learn more](#)

Table

Trip data Off

Store rows where column "Trip Date" is in the last:

Refresh rows where column "Trip Date" is in the

☐ Detect data changes [Learn more](#)

☐ Only refresh complete periods [Learn more](#)

ApplyCancel

Page 1 +

READY

Incremental refresh

You can improve the speed of refresh for large tables by using incremental refresh in Premium workspaces. This setting will apply once you've published a report to the Power BI service. [Learn more](#)

① Once you've deployed this table to the Power BI service, you won't be able to download it back to Power BI Desktop. [Learn more](#)

Table

Trip data

On

Store rows where column "Trip Date" is in the last:

5 Years

Refresh rows where column "Trip Date" is in the

10 Days

☐ Detect data changes [Learn more](#)

☐ Only refresh complete periods [Learn more](#)

Apply

Cancel

Visualization

Fields



Values

Drag data fields here

Filter

Drag data fields here

Page Filters

Drag data fields here

DimChannel
DimCurrency
DimDate
FactSales
CountryCode
SalesAmount
SalesKey
SalesQuantity
TaxAmt
TotalProductCost
UnitCost

Untitled - Power BI Desktop

File Home

Paste Cut Copy

Get Data Recent Sources Edit Query Refresh Incremental Refresh New Visual Ask A Question Text Box Picture

Clipboard Data Connections Refresh New Visual Insert Report Model Data Power BI

Relationships Measures Publish Report

Visualization Fields

DimChannel DimCurrency DimDate FactSales CountryCode SalesAmount SalesKey SalesQuantity TaxAmt TotalProductCost UnitCost

Incremental refresh

You can improve the speed of refresh for large tables by using incremental refresh in Premium workspaces. This setting will apply once you've published a report to the Power BI service. [Learn more](#)

Once you've deployed this table to the Power BI service, you won't be able to download it back to Power BI Desktop. [Learn more](#)

Table

Trip data On

Store rows where column "Trip Date" is in the last:

5 Years

Refresh rows where column "Trip Date" is in the

10 Days

☐ Detect data changes [Learn more](#)

☐ Only refresh complete periods [Learn more](#)

Apply Cancel

Page 1

READY

Te ustawienia nie dotyczą danych załadowanych w PBI Desktop – działają dopiero po opublikowaniu w usłudze Power Bi

Incremental refresh

You can improve the speed of refresh for large tables by using incremental refresh in Premium workspaces. This setting will apply once you've published a report to the Power BI service. [Learn more](#)

① Once you've deployed this table to the Power BI service, you won't be able to download it back to Power BI Desktop. [Learn more](#)

Table

Trip data

On

Store rows where column "Trip Date" is in the last:

5 Years

Refresh rows where column "Trip Date" is in the

10 Days

☒ Detect data changes [Learn more](#)

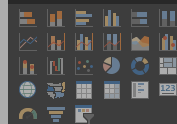
☐ Only refresh complete periods [Learn more](#)

Apply

Cancel

Visualization

Fields



Values

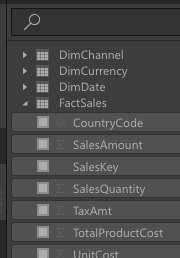
Drag data fields here

Filter

Drag data fields here

Page Filters

Drag data fields here



Incremental refresh

① Once you've deployed this table to the Power BI service, you won't be able to download it back to Power BI Desktop. [Learn more](#)

Table

Trip data

On

Store rows where column "Trip Date" is in the last:

5

Years

Refresh rows where column "Trip Date" is in the

10

Days

☒ Detect data changes [Learn more](#)

Only refresh data when values in this column change:

RowsUpdatedTimeStamp

☐ Only refresh complete periods [Learn more](#)

Apply

Cancel

Visualization

Fields

Visualizations

Fields

DimChannel

DimCurrency

DimDate

FactSales

CountryCode

SalesAmount

SalesKey

SalesQuantity

TaxAmt

TotalProductCost

UnitCost

Values

Drag data fields here

Filter

Page Filters

Drag data fields here

File Home

Clipboard Data Connections Refresh New Visual Ask A Question Insert Report Model Data Power BI

Get Data Recent Sources Edit Query Refresh Incremental Refresh New Page Relationships Measures Publish Report Power BI

Visualizations

Fields

DimChannel DimCurrency DimDate FactSales CountryCode SalesAmount SalesKey SalesQuantity TaxAmt TotalProductCost UnitCost

Values

Drag data fields here

Filter

Page Filters

Drag data fields here

Page 1 +

READY

Publish to Power BI

① You can only publish data with incremental refresh to Premium workspaces. [Learn more](#)

Select a destination to publish to.

My workspace Accessibility Incremental refresh only works for datasets in Premium workspaces.

Business Applications Group

C+E Accessibility

Cloud Tools Studio

Select Cancel

Dodatkowo będzie dostępna opcja Merge (do publikacji zmian w istniejących modelach bez utraty danych przyrostowych)

Customer momentum: Power BI



Retail and Consumer Goods

meijer



Coca-Cola

HERSHEY



ziosk

HERSHEY



Discrete Manufacturing



Rockwell Automation



KENAMETAL

Honeywell



RENAULT SPORT
FORMULA ONE™ TEAM



Government and Education

Carnegie Mellon University



LAWRENCE TOWNSHIP



Healthcare



Elizabeth Glaser Pediatric AIDS Foundation
Until no child has AIDS.



Hôpital Montfort



Oslo universitetssykehus



Beth Israel Deaconess Medical Center

Aerocrine

medisys



Banking and Financial Services

Tangerine

METRO BANK

HBOR

HRVATSKA BANKA ZA OBNOVU I RAZVITAK



Flanders Investment & Trade
Government of Flanders - Belgium

covercy



Professional Services

FINANCIAL FABRIC

Infosys

AP

ATKINS

imshealth
INTELLIGENCE APPLIED.

sodexo



Technology Systems & Services

BitTitan



DocuSign

AXIA

T·Systems

Dodatkowe materiały

- [Enterprise Deployment whitepaper](#)
- [AAD B2B + Power BI Whitepaper](#)
- [Power BI GDPR Whitepaper](#)
- [Power BI Security](#)
- [Power BI Performance Best Practices](#)
- [Power BI Pro & Power BI Premium](#)

Dziękuję za uwagę

