



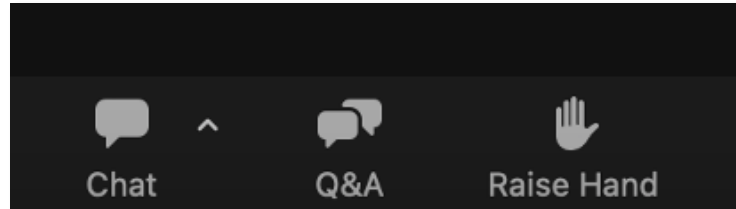
SENTURUS

Power BI Datamarts



Questions?

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A window titled 'Q&A' with a white background and a dark border. It contains a welcome message and a text input field.

Q&A

Welcome to Q&A

Questions you ask will show up here. Only host and panelists will be able to see all questions.

Type your question here...

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- Snowflake
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Webinar
6 Ways to Publish & Share Tableau Dashboards
How-to demo and discussion of pros, cons and considerations




Webinar
How to Successfully Implement Self-Service Analytics
Agile, governed self-service BI with a focus on Cognos analytics




Webinar
Creating a Power BI Report Your Boss Can Navigate
How to design a user-friendly nav experience



Webinar
Power BI Report Builder & Paginated Reports
Creating pixel-perfect reports for printing and PDF



Webinar
Using Python with Power BI
Learn the basics, including the software and plotting libraries



Webinar
Streamline Cognos Migrations and Consolidations
Automatically decode Cognos content and reduce migration time by 90%

Agenda

Introductions

Introduction to Power BI datamarts

When and how to use a datamart

Datamarts vs. dataflows

Using datamarts for reporting (demo)

Datamart administration

Senturus overview and additional resources

Q&A



Introductions

Pat Powers


BI Consultant and Trainer
Senturus, Inc.



Poll

Which of these are feeding your datasets in Power BI?
(Select all that apply)

- Cloud based databases (Azure, Synapse, Snowflake)
- On-premise database connections (SQL, Oracle, DB2)
- Files (Excel, CSV)
- Dataflows
- Datamarts



A green rounded rectangle containing three checkboxes and three horizontal lines, representing a poll form. The first checkbox is checked, and the other two are unchecked.

Introduction to datamarts

- For most groups, a big hurdle in moving towards self-service is siloed data
- While it works for users, IT can't approve since it's ungoverned and has little to no oversight



Introducing (sort of) datamarts



Help bridge the gap
between business and
IT



In preview for quite
some time



Will be released soon
in the general product

What are datamarts

- Datamarts are self-service solutions that are loaded into a fully managed database
- The data is accessed and manipulated through Power Query Editor then loaded into Azure SQL database



Benefits of datamarts

**Biggest benefit
is self-service
for business
users**

**For IT, data
governance
and
manageability**

**Basic SQL
skills are all
that's needed
to use
datamarts**

**Single interface
and toolset
makes
integration
easy**



Benefits of datamarts

Everything is web based with nothing else needed

Performance tuning is automated and built-in

Query editing can be done either with SQL or using the visual editor


Included with premium capacities and PPU




When to use datamarts



Departmental
self-service

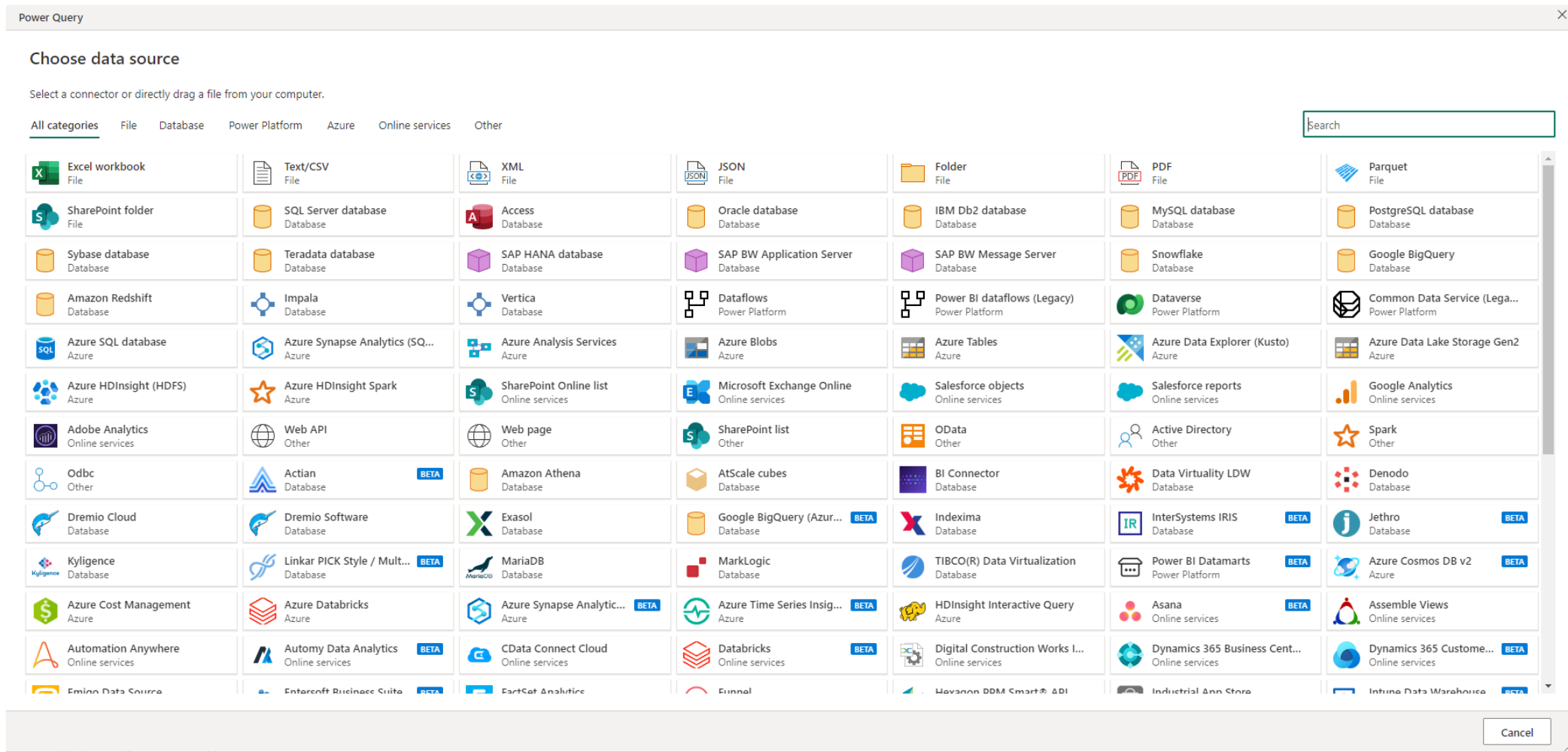


Allowing for
end-user
SQL based
analytics

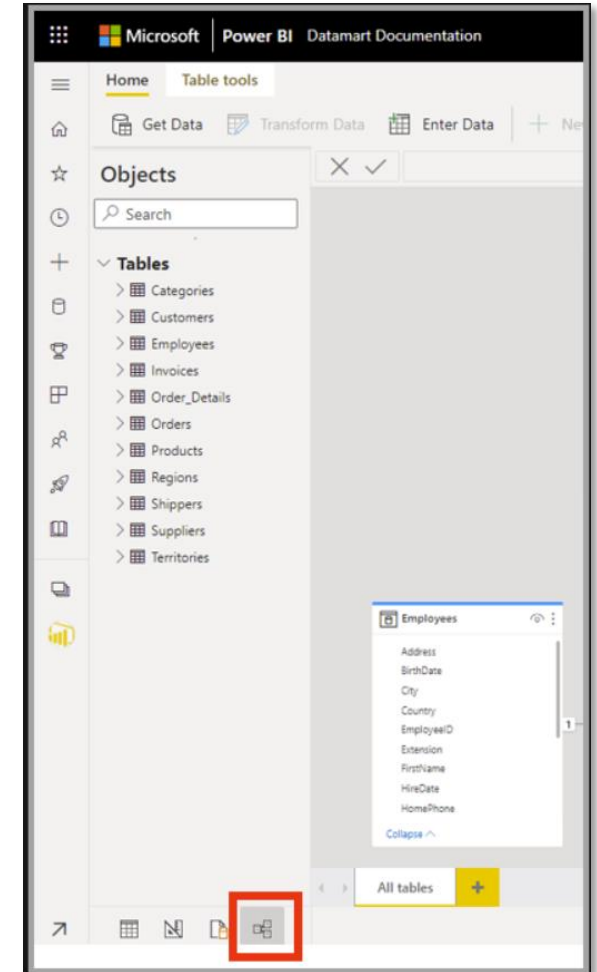
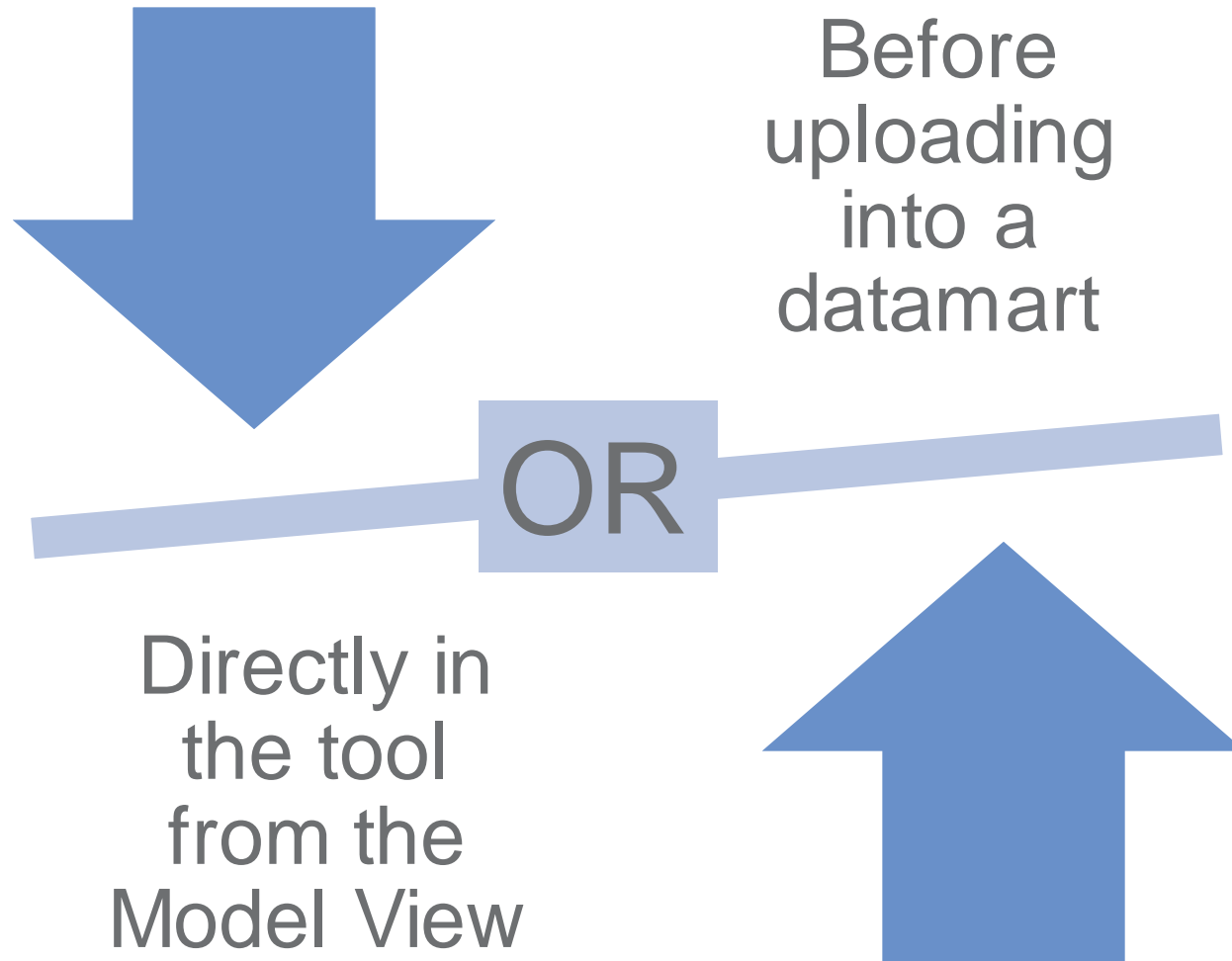


End to end
semantic
models

Where can the data source from?



Where does modeling occur?



When to use datamarts and dataflows

Dataflows

- Build reusable and shareable data prep for items in Power BI

Datamarts

- Sort, filter, do simple aggregation visually or through expressions defined in SQL
- For outputs that are results, sets, tables and filtered tables of data
- Provide accessible data through a SQL endpoint
- Enable users who don't have access to Power BI Desktop

Datamarts vs. Dataflows vs. Datasets

MS recommends the best use for each:

Item	Use case	Complementing role with datamarts
Datamarts	User-based data warehousing and SQL access to your data	Sources for other datamarts or items, using the SQL endpoint: <ul style="list-style-type: none">• External sharing• Sharing across departmental or organizational boundaries with security enabled
Dataflows	Reusable data prep (ETL) for datasets or marts	Use a single, built-in dataflow for ETL and can accentuate this, enabling: <ul style="list-style-type: none">• Loading data to datamarts with different refresh schedules• Separating ETL and data prep steps from storage, so it can be reused by datasets
Datasets	Metrics and semantic layer for BI reporting	Provide an auto-generated dataset for reporting, enabling: <ul style="list-style-type: none">• Combining data from multiple sources• Selective sharing of the datamart tables for fine-grained reporting• Composite models – dataset with data from the datamart and other data sources outside of the datamart• Proxy models – a dataset that uses DirectQuery for the auto-generated model, using a single source of truth

Datamarts and dataflows together

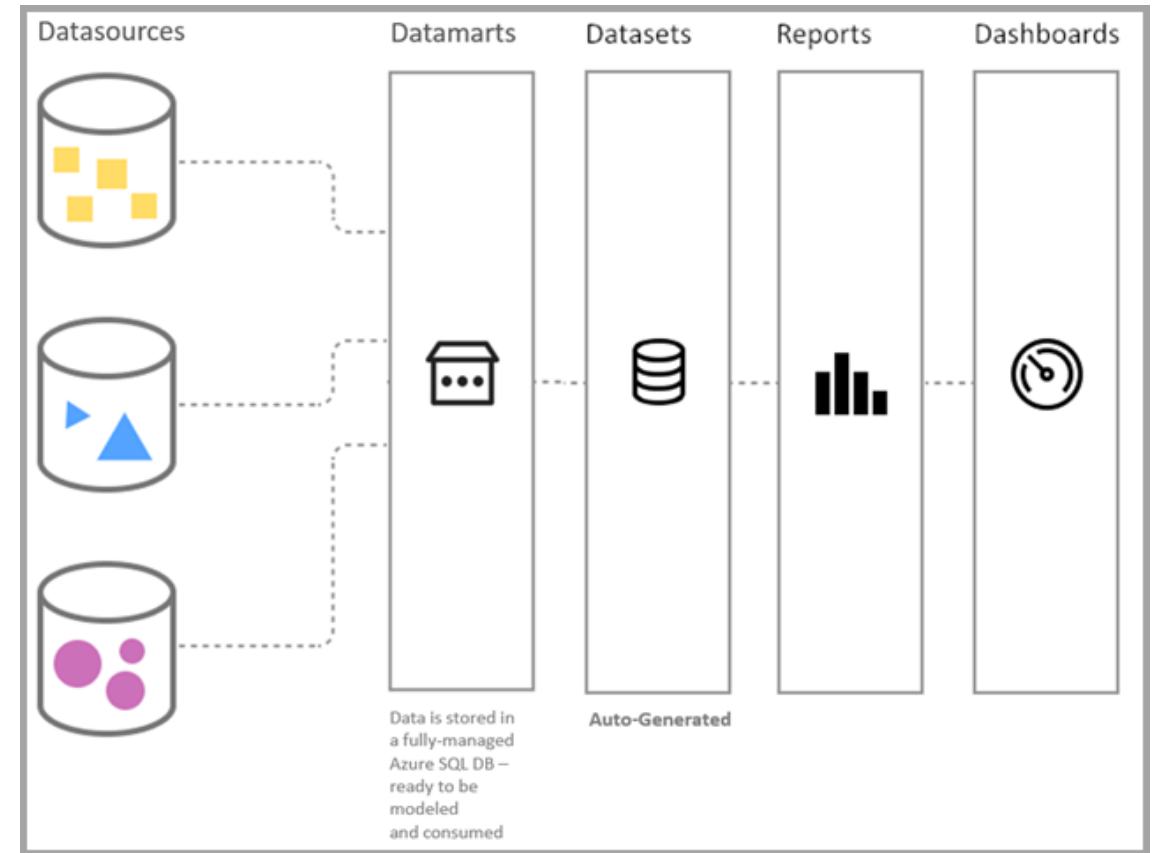
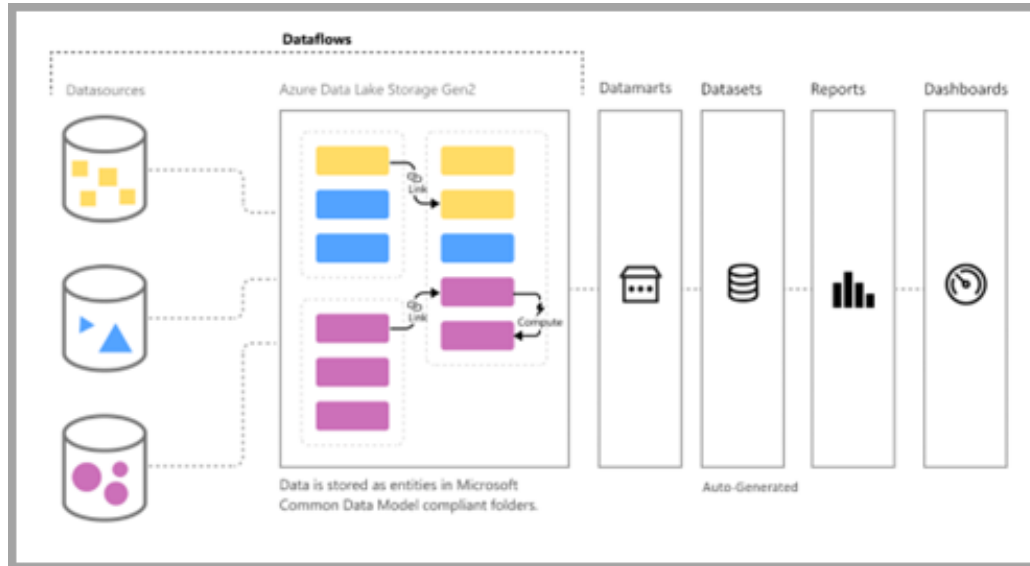
For solutions with existing dataflows:

- Easily consume the data with datamarts to apply any additional transformations or enable ad hoc analysis and querying using SQL queries
- Easily integrate a no-code data warehousing solution with no management of datasets

For solutions with existing datamarts:

- Perform reusable ETL at scale for large data volumes
- Bring your own data lake and use dataflows as a pipeline for datamarts

Datamarts and dataflows together



Refreshing datamarts

- The datamart editor allows for incremental data refreshes
- This extended scheduled refresh operates by providing automated partition creation
- Use a policy to partition the table to reduce the amount being refreshed



Incremental refresh and real-time data advantages

- Fewer refresh cycles for fast-changing data
- Refreshes are faster
- Refreshes are more reliable
- Resource consumption is reduced
- Enables you to create large datamarts
- Easy to configure

Proactive caching

- Enables automatic import of the underlying data
- Provides performance improvement by using the Vertipaq engine
- After each refresh, the dataset is changed to DirectQuery
- Caching builds a side-by-side model managed by the datamart
- This happens withing 10 minutes after no changes are detected



Proactive caching cont.

Dataset changes include:

- Refreshes
- New data sources
- Schema changes
- Modeling updates
 - New measure, hierarchies or descriptions
- Use deployment pipelines to ensure best performance and that users are using the import model



Datamarts demo



Administration

- Handled through the Power BI service under Admin portal
- Datamart operations audited from the 365 Admin Center
- REST APIs used to export activity
 - <https://learn.microsoft.com/en-us/rest/api/power-bi/admin/get-activity-events>



In summary, datamarts provide

- Bridge the gap between IT and business users
- A mechanism for users to have self-service access while giving IT data governance
- Azure backed databases with datasets that can be incrementally refreshed
- Simple administration through 365 Admin Center
- Integration with dataflows and datasets

Additional resources

Unbiased product reviews



Technical tips



Insider viewpoints



More on this subject



Product demos



Upcoming events



Upcoming events

Cognos Analytics Performance Tuning Tips

Thursday, May 4, 11am PT/2pm ET

Chat with Pat: Building Good Vizzes in Tableau

Wednesday, May 17, 11am PT/2pm ET

Many BI Tools. One Semantic Layer in the Cloud to Rule Them All.

Thursday, May 18, 11am PT/2pm ET

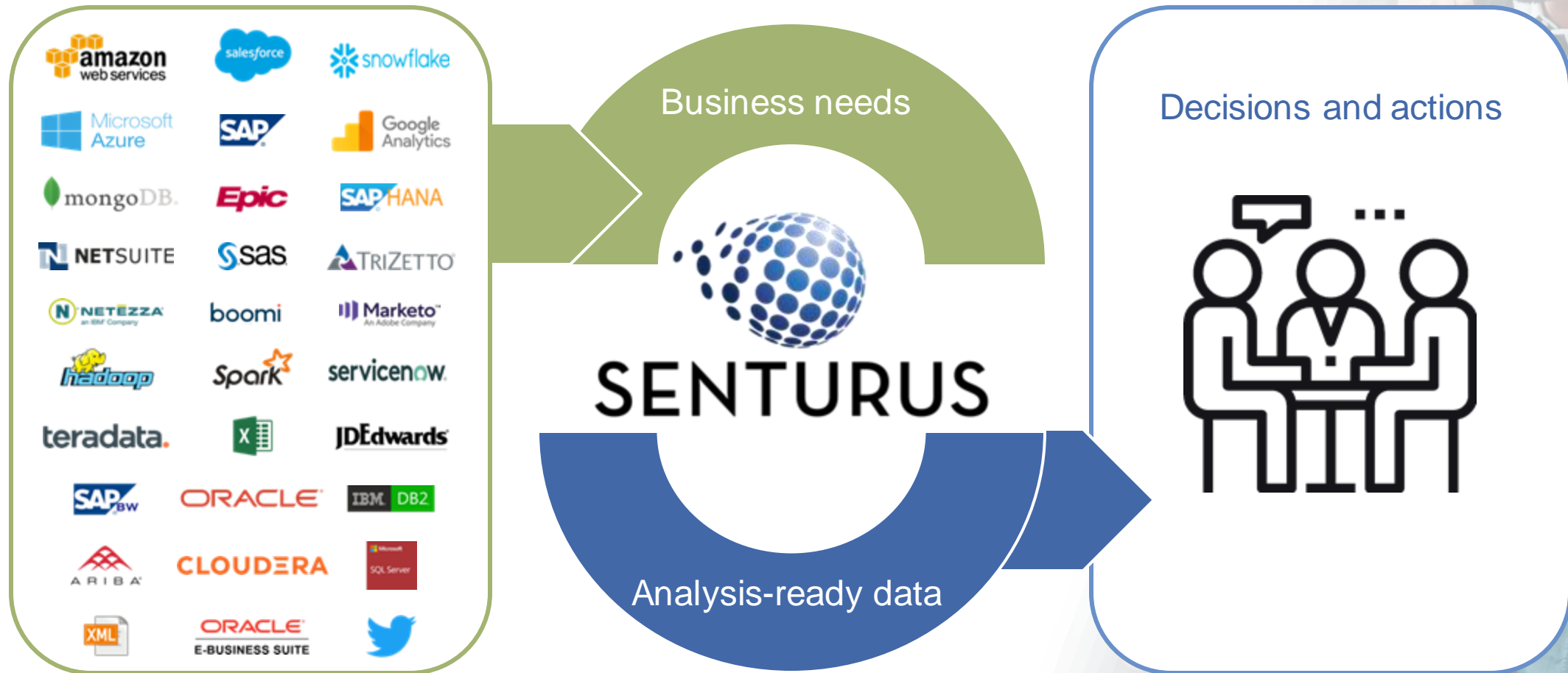
Chat with Pat: Building Data Modules in Cognos

Wednesday, June 21, 11am PT/2pm ET

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Q & A

If your question or issue is broader than what we are able to answer today, contact us at:


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and we will set up a free consultation.

Q&A

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Thank You



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