Modern Data Platform Reference Architecture

Stream
V=Velocity
IoT devices, sensors, gadgets
(loosely-typed)

Non-structured
V=Variety
images, video, audio, free text
(no structure)

Semi-Structured
V=Volume
csv, logs, json, xml
(loosely-typed)

Relational Databases
(strongly-typed, structured)

Load and Ingest

Event Hubs

Data Factory
Scheduled / event-triggered data ingestion

λ Lambda Architecture

Hot Path
Real Time Analytics

Cold Path
History and Trend Analysis

Process

Stream Analytics

Cognitive Services
Azure ML

Build and Score ML models

Databricks

Integrate big data scenarios with traditional data warehouse

Stream Datasets and Real-time Dashboards

Power BI Premium

CosmosDB

Business User

Analytics

Application

Analytics

Azure Storage

Fast load data with Polybase

SQL Data Warehouse

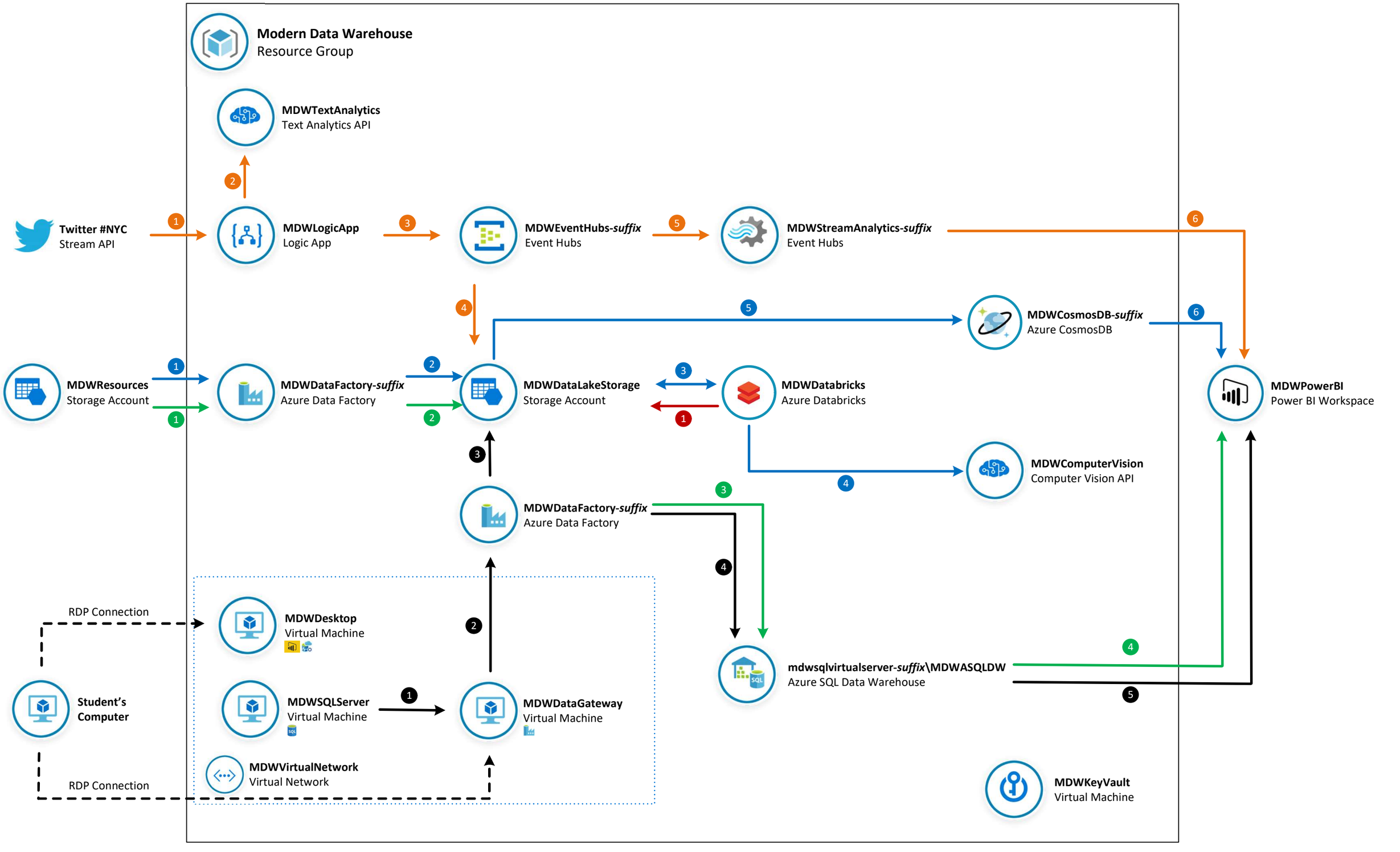
Store

Enterprise-grade semantic model

Power BI Premium

Serve

Azure Data Platform End2End

Lab Architecture

- Lab 1: Load Data into Azure SQL Data Warehouse using Azure Data Factory Pipelines
- Lab 2: Transform Big Data using Azure Data Factory and Azure SQL Data Warehouse
- Lab 3: Explore Big Data with Azure Databricks
- Lab 4: Add AI to your Big Data pipeline with Cognitive Services
- Lab 5: Ingest and Analyse Real-Time Data with Event Hubs and Stream Analytics