Microsoft Azure Machine Learning, Cortana Analytics Suite

Martin Abbott
Microsoft Azure MVP

Machine Learning

Computer Systems that improve with experience

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TRICHUR
Registered
Mr. Eugene Gunnersbach,
15, 17, South Broadway,
42251
St Louis. Mo.
U.S.A.

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Mrs George A Hughes
1135 Clarenden Crescent
Oakland
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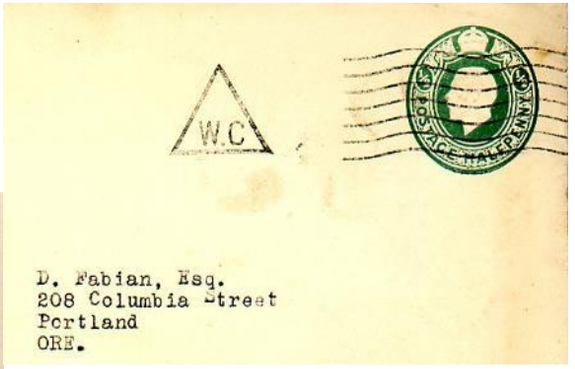
W.C.
D. Fabian, Esq.
208 Columbia Street
Portland
ORE.

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BOX 140,
ALDERSON, Monroe Co., W. VA.
W.H.Moore, Esq.
Brockport,
New York.

Mrs. P Brown
1318 - 5th Ave North
Saskatoon Sask
S2K 252
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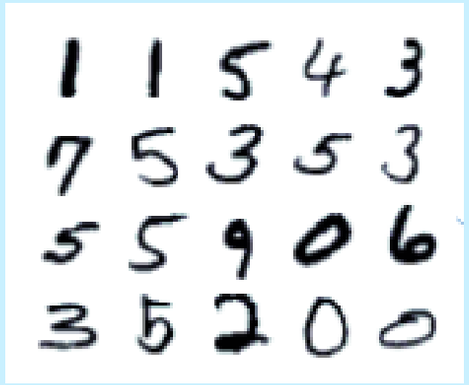


Training examples

1	1	5	4	3
7	5	3	5	3
5	5	9	0	6
3	5	2	0	0

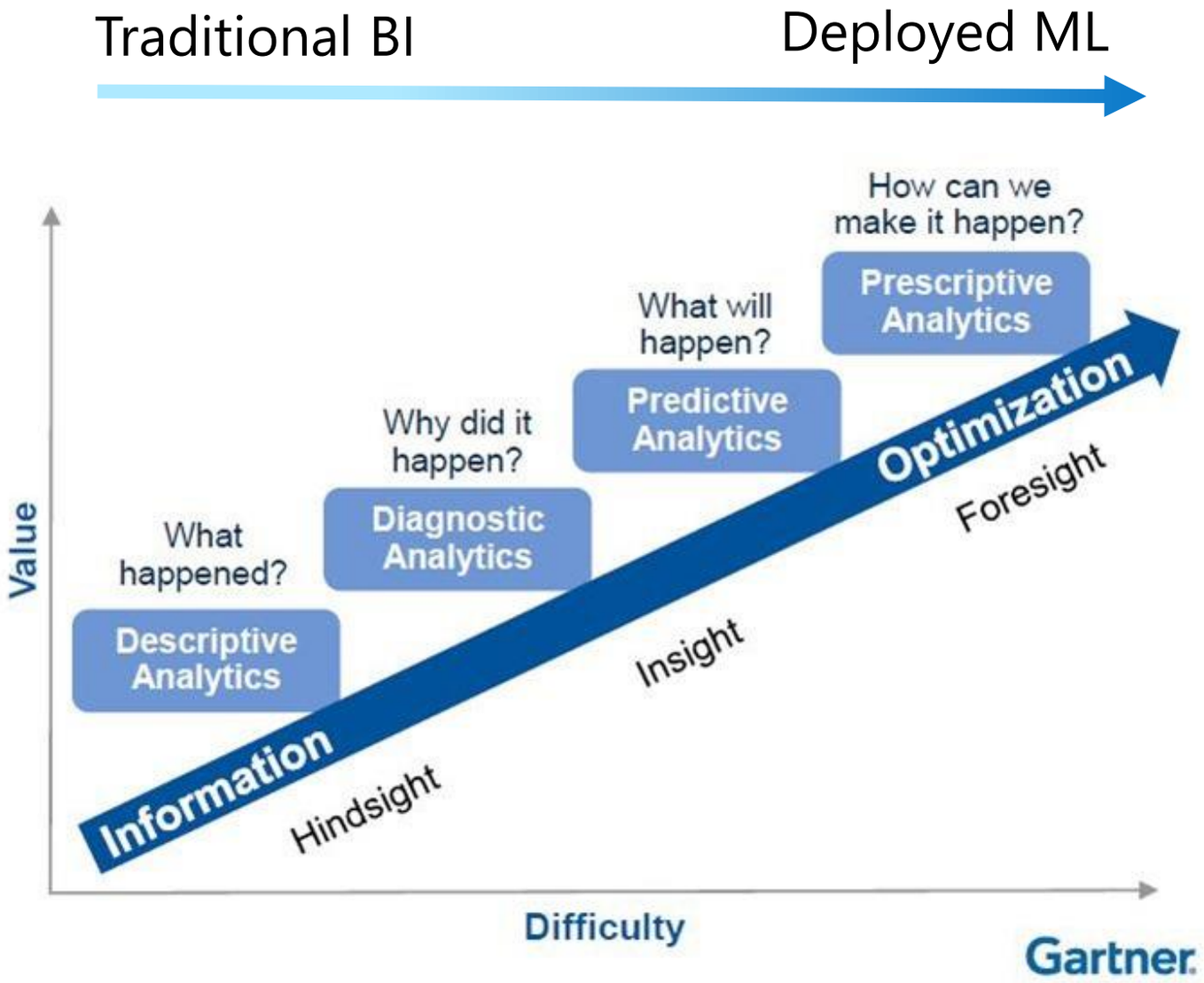
Training labels

Machine learning system

Accurate digit classifier

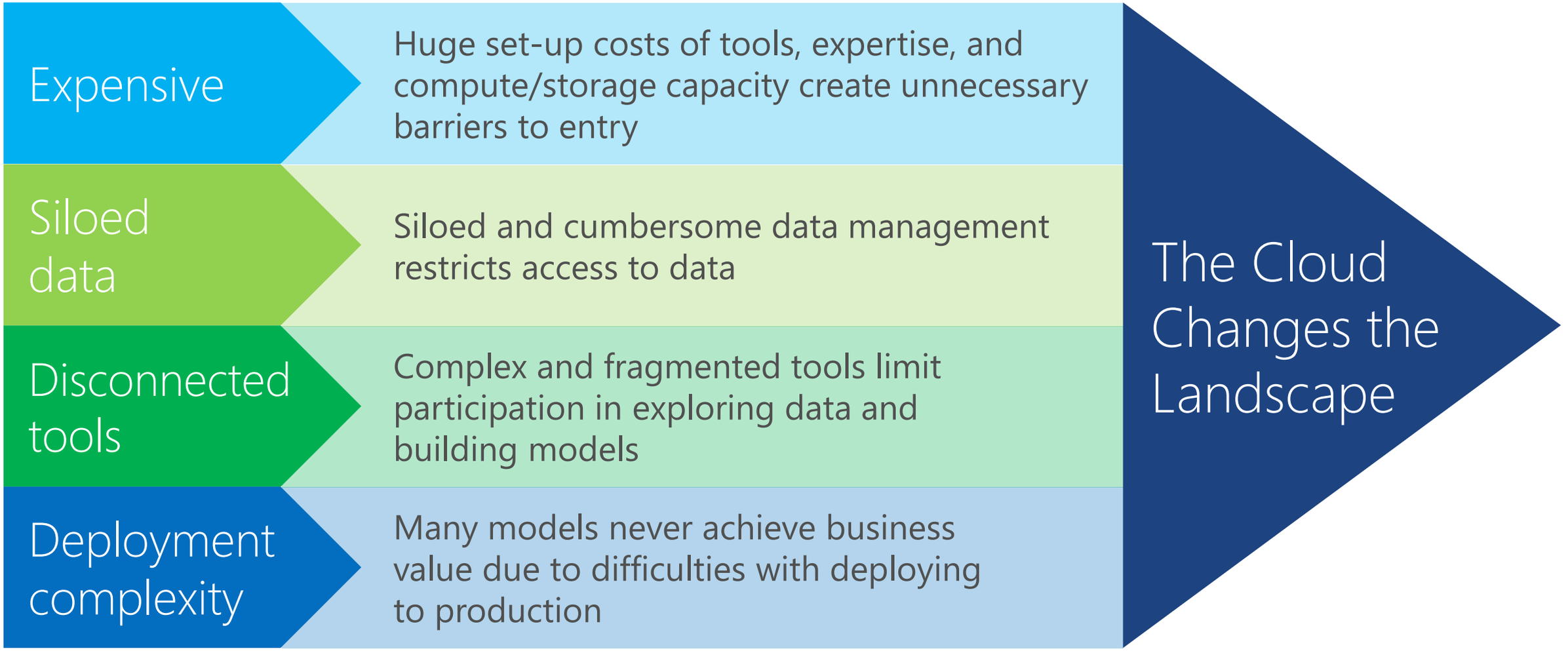
2

Types of Analytics



Current State of the Business

No improvement in generations



Microsoft & Machine Learning

15 years of realizing innovation

1999 — Computers work on users behalf, filtering junk email

2004 — Microsoft search engine built with machine learning

2005 — SQL Server enables data mining

2008 — Bing Maps ships with ML traffic-prediction service

2010 — Microsoft Kinect can watch users gestures

2012 — Successful, real-time, speech-to-speech translation

2014 — Microsoft launches Azure Machine Learning

John Platt,
Distinguished scientist at Microsoft Research

“Machine learning is pervasive throughout Microsoft products.”

Microsoft Azure Machine Learning

Built for a cloud-first, mobile-first world

Fully managed

No software to install, no hardware to manage, and one portal to view and update.

Integrated

Simple drag, drop and connect interface for Data Science. No need for programming for common tasks.

Best in Class Algorithms + R + Python

Built-in collection of best of breed algorithms. Support for R and Python.

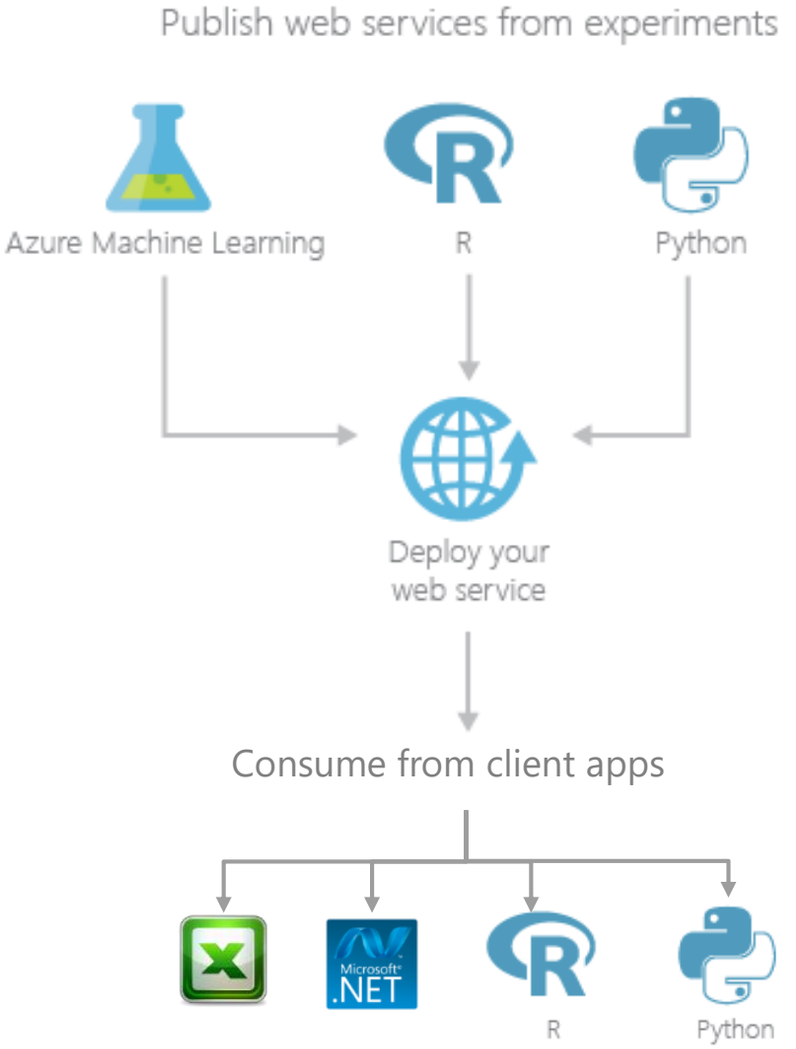
Deploy in Seconds

Operationalize models with a single click. Retrain models programmatically.

Azure ML Operationalization (O16N)

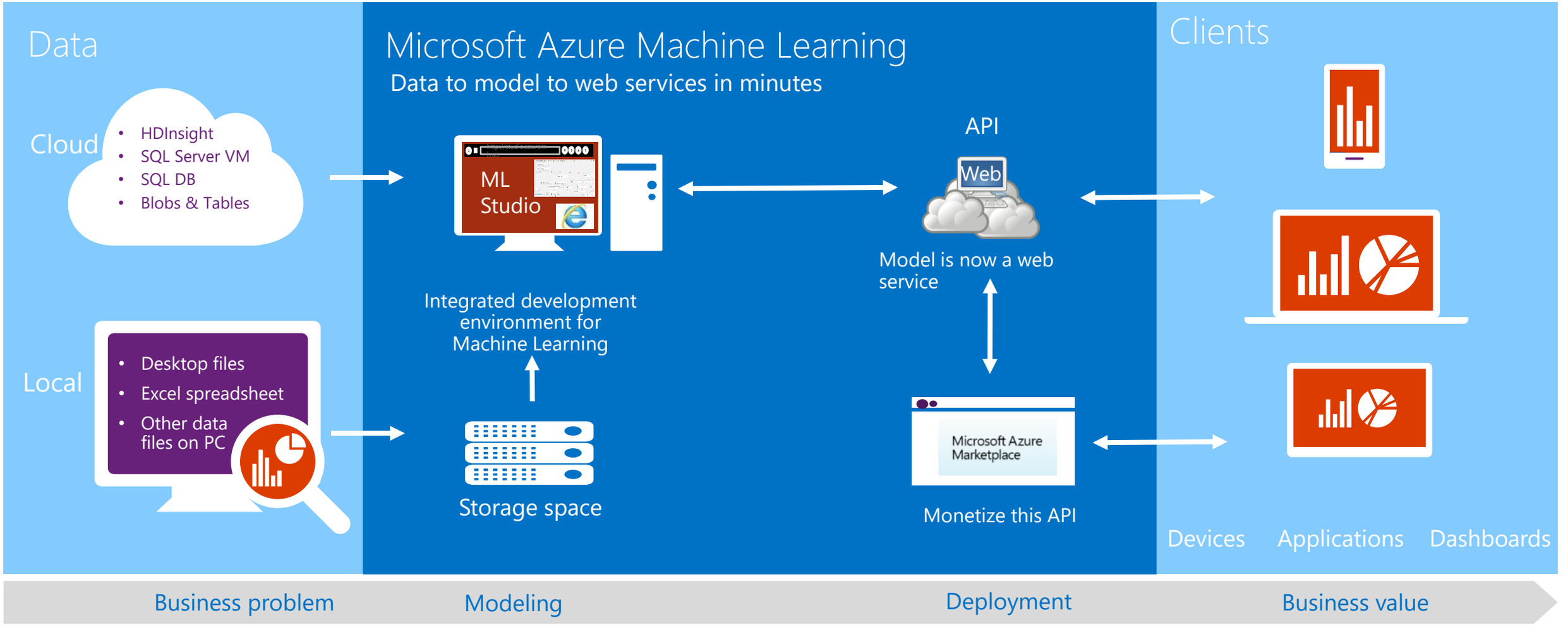
Access your models from anywhere

- Ease of O16N a key differentiator of Azure ML
- O16N APIs available from different tools
- Publish models as web services from RStudio, Jupyter Python
- Access them as REST APIs from web and mobile apps, and dashboards



Delivering Advanced Analytics

Business users access results from anywhere, on any device



Scenarios

Government	Fraud Detection	Threat Detection	Cyber Security	Social Graph Analysis for Suspicious Activity	Energy Network Management
Financial Services	Fraud Detection	Credit Risk Scoring	High Speed Arbitrage	Abnormal Trading	Customer Segmentation
Health & Life Sciences	Fraud Detection	Campaign and Sales Program	Patient Care Quality and program analysis	Drug discovery and development	Disease detection
Consumer	Demand Forecasting	Basket Analysis	Campaign Management	Supply Management	Event based targeting

More scenarios

Web Scale Use Cases	Clickstream Segmentation & recommendation	Ad targeting/Selection, Forecasting & optimization	Click Fraud Detection And Prevention	Social Graph Analysis for Risk Management/Marketing	Customer Segmentation
Telecommunications	Pricing Optimizations	Customer Churn Management	CDR Analysis	Network Performance Optimization	User Behavior Analysis
Energy Industry	Energy Trading	Risk Management	Asset Management	Smart Grid Management	Power Generation Management
Legal Discovery	ESI Processing	Collaborative Discovery	Social graph analysis		

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