

# How advanced analytics help create digital businesses

---

# James Boother

james@coeo.com



Trusted analytics and data management experts

Strategic Microsoft data platform partner

Collaborative approach to solving customer problems

Delivering excellence in technology strategy and mission critical support



# Agenda

- The journey of data in the digital era
- Microsoft's advanced analytics services
- Using advanced analytics to create new business models

# The journey of data in the digital era

---

# Data powers digital transformation

- Every business is a data business
- Data is the new oil

## Digital Transformation

- Customer experience
- Optimising operations

## Digital Technologies

- Big data
- Predictive analytics



### Technology

#### **Formula 1 technology used in hospital**

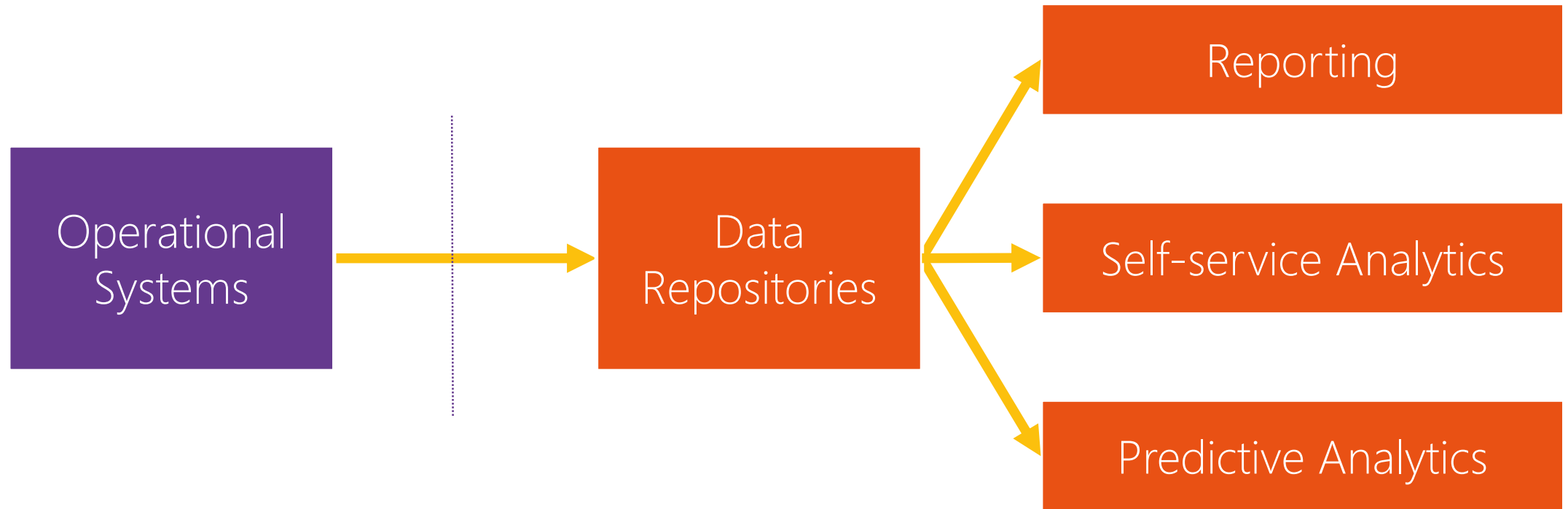
By Jane Wakefield  
Technology reporter

**At first glance, a four-and-a-half-year-old with a serious heart condition and a Formula 1 racing car have little in common.**

But the telematics that assess a car's performance on the track are now being used to monitor Damian Singh as he recovers from a cardiac arrest in the intensive care ward of Birmingham Children's Hospital (BCH).

It is the first time such a system has been adapted for use on humans.

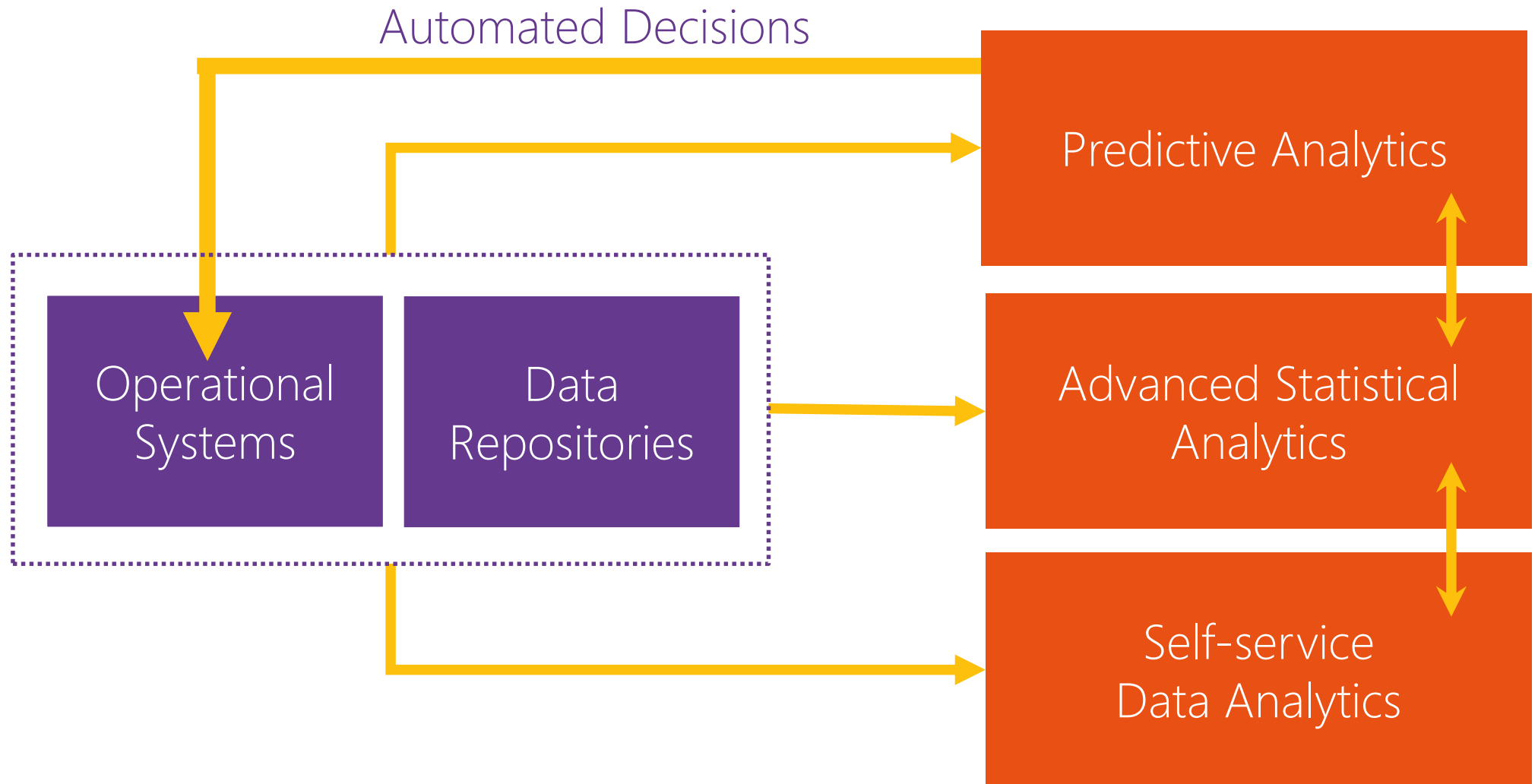
# The evolution of analytics



# The evolution of analytics

What is going to be done automatically?			Action
What will happen?	Int	Decision	Action
Why did it happen?	Interpretation	Decision	Action
What happened?	Interpretation	Decision	Action

# The journey of data in the digital era





# The journey of data in the digital era

- Operational data can power advanced analytics
- As well as un-structured big data sources
- Create models to predict future outcomes
- Find relationships based on causes and effects
- Real time automated decision making

# Some examples

## Finance

- Credit risk analysis
- Fraud detection



## Retail

- “You liked this, so you might like this”
- Customer churn prevention

# Microsoft's Advanced Analytics Services

---

# Advanced analytics platform

## Sources

Azure Data Lake Store

HDInsight HDFS

DocumentDB

Azure SQL Data Warehouse

Azure SQL Database

SQL Server

## Analytics

Microsoft R Server

Azure Machine Learning

Azure Data Lake Analytics

HDInsight

Stream Analytics

## Destinations

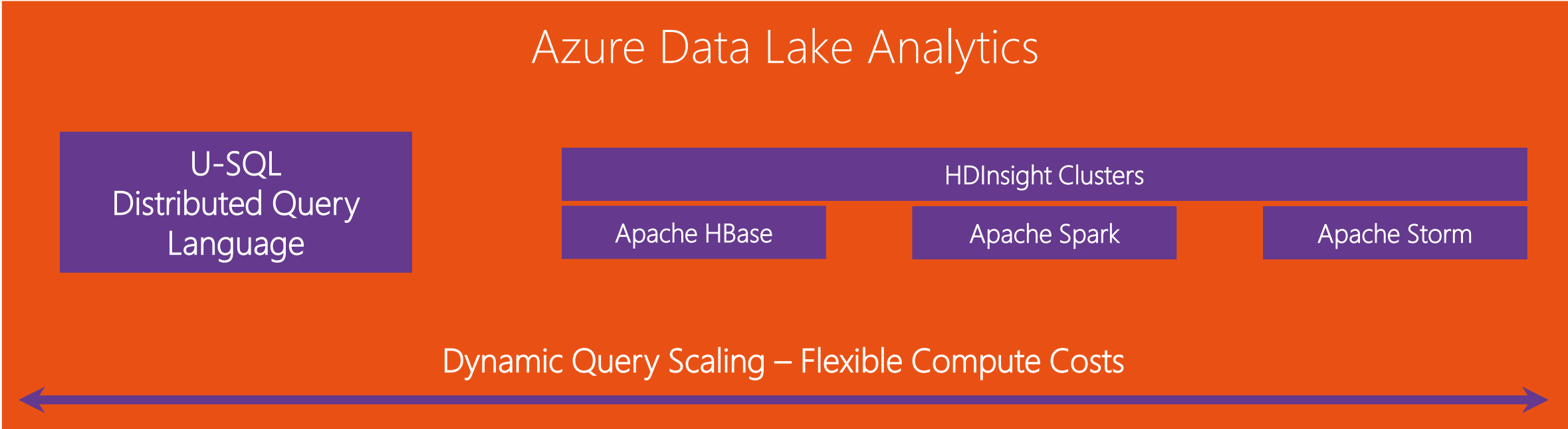
Power BI

Web Services

Applications

Automation Systems

# Azure Data Lake

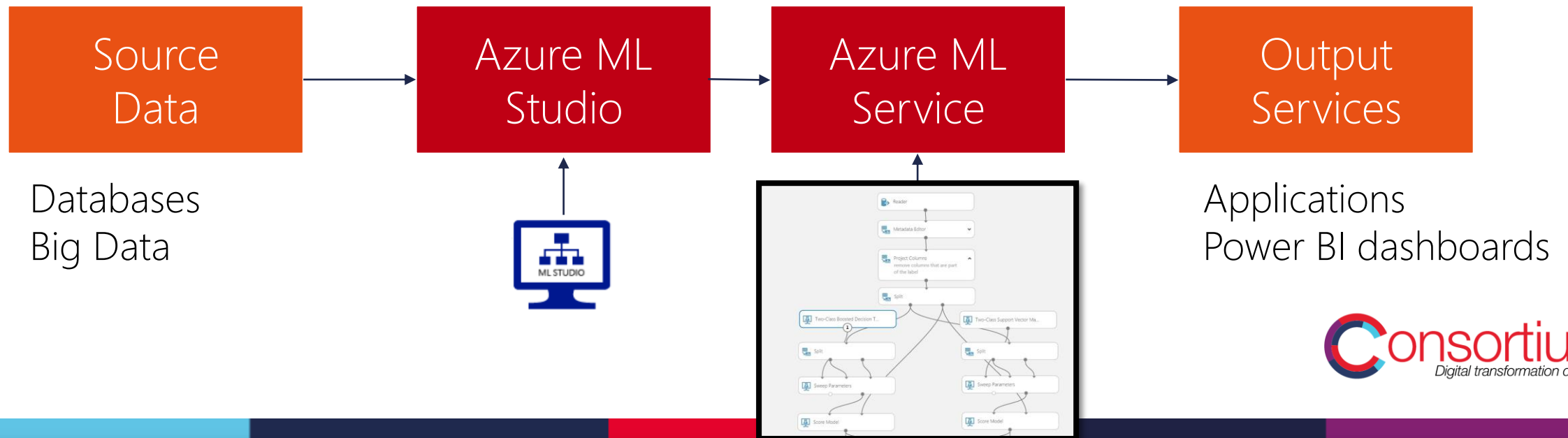


# Microsoft R Server

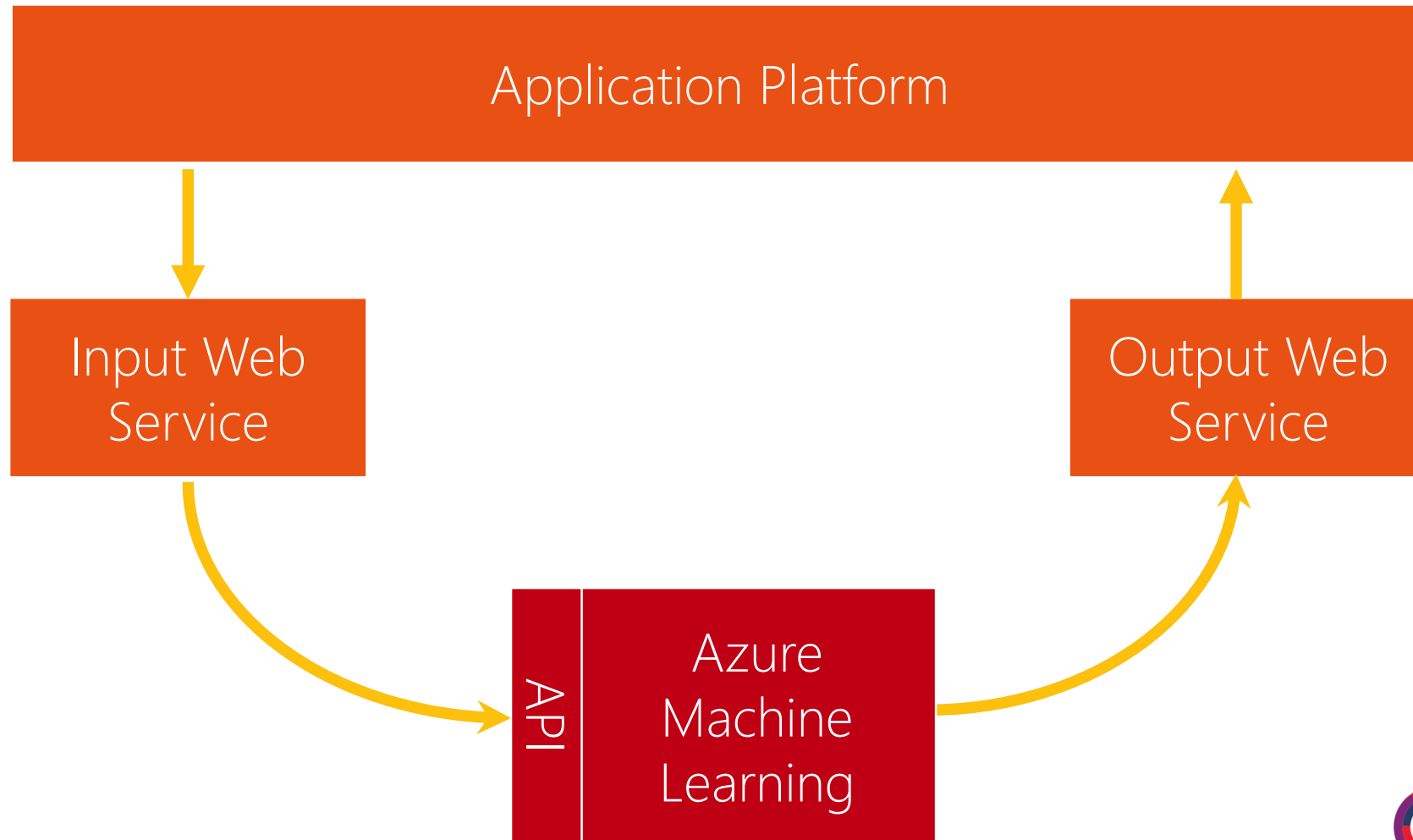
- What is R?
- **R Server** is a server based query engine for R queries
- **Microsoft extensions** include support for multi-threaded queries and more data than memory
- Standalone product is available for **Linux** platforms
- Windows variant ships “inside” of **SQL Server 2016**

# Azure Machine Learning

- Cloud-based predictive analytics service
- “Based on what happened in the past and given these conditions, what will happen?”



# Making intelligent applications





# New business models

---

# Improving the customer experience

- Customers know their suppliers know more about them than they do

## Facilities Management

- Using what you know about us, how we operate more efficiently?
- Use what you know about us to make next year's contract cheaper

# Learning from historic data

- Machine learning can automate decisions

## Service Management

- Text mining can review support tickets to find what really happened
- Machine learning models can automatically classify and assign new tickets

# Selling access to knowledge

- Secure cloud access to data stores

## Retail Analytics

- Retail data warehouses contain historic sales activity data
- Suppliers can be sold access to anonymised data - the data warehouse pays for itself

# Summary

- Analytics technologies are being integrated into operational systems
- Microsoft has a broad range of advanced analytics services, but most involve using R
- These technologies are helping turn every business into a data business