# Data and Analytics - Revolution or Evolution?

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IT Strategy Adviser at Medtronic
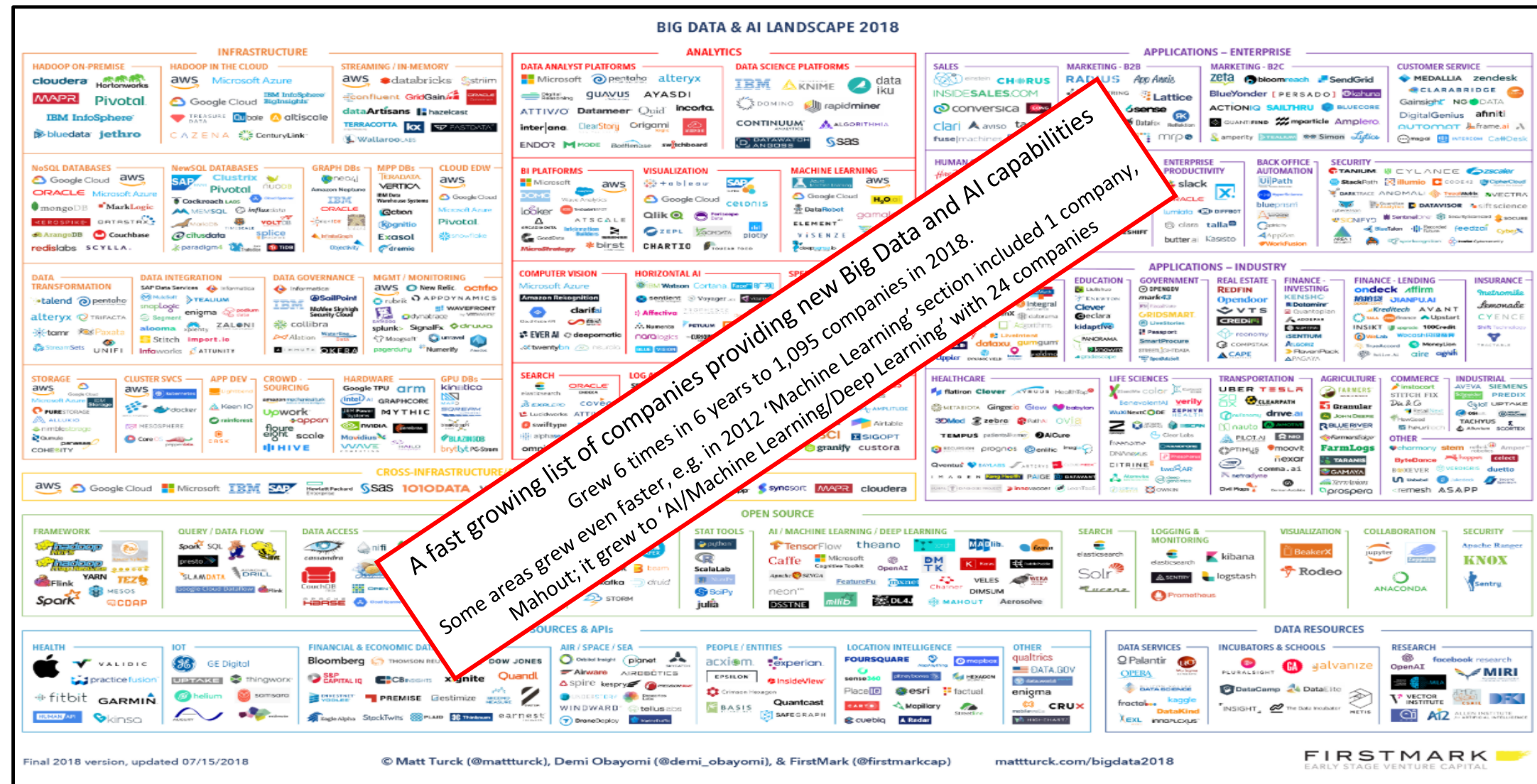
**Marina Kerbel**

EA Consultant at Medtronic

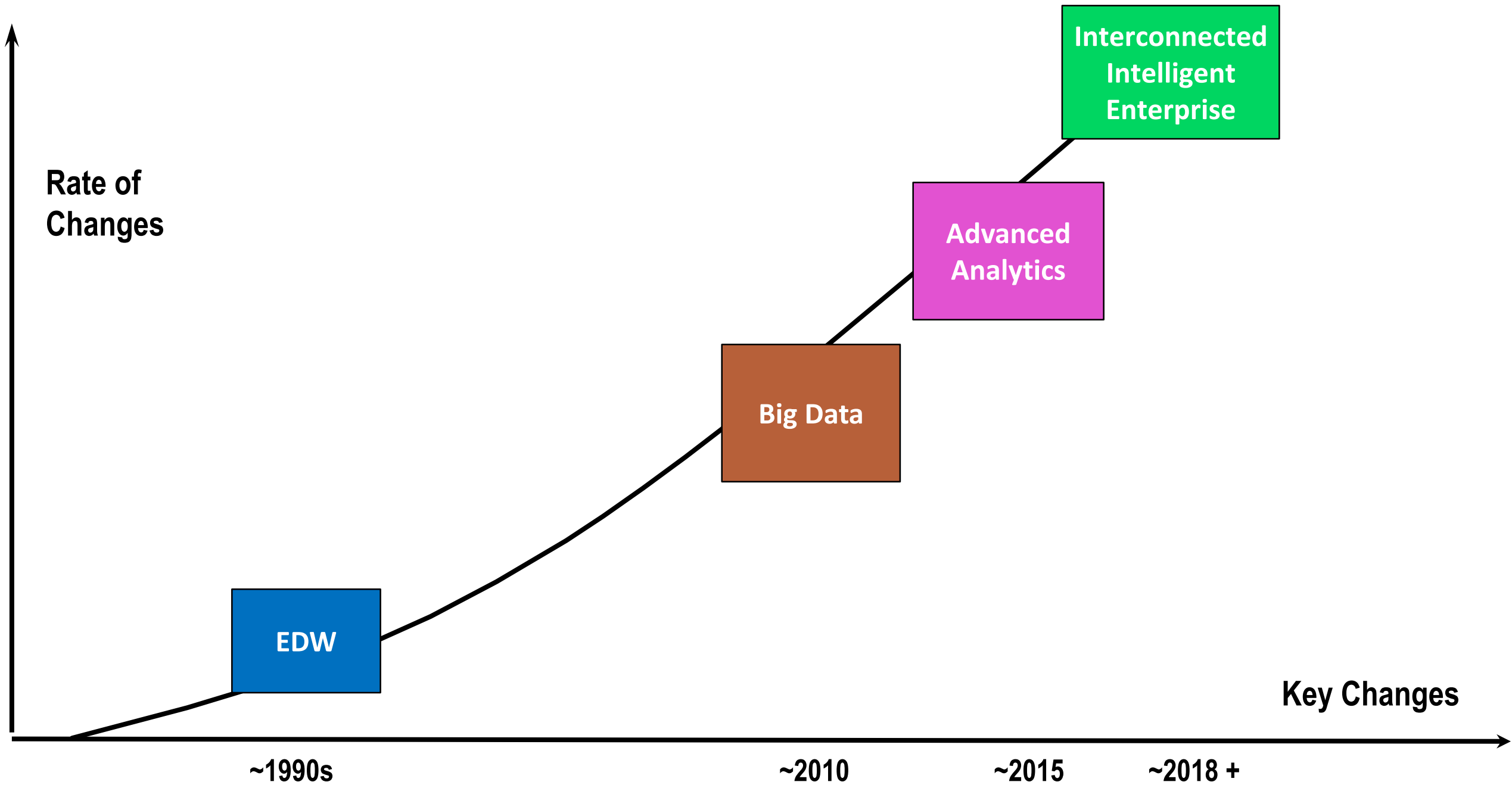Principal at UpOnData

November 8, 2018

**Example - Big Data and AI Landscape from FirstMark**
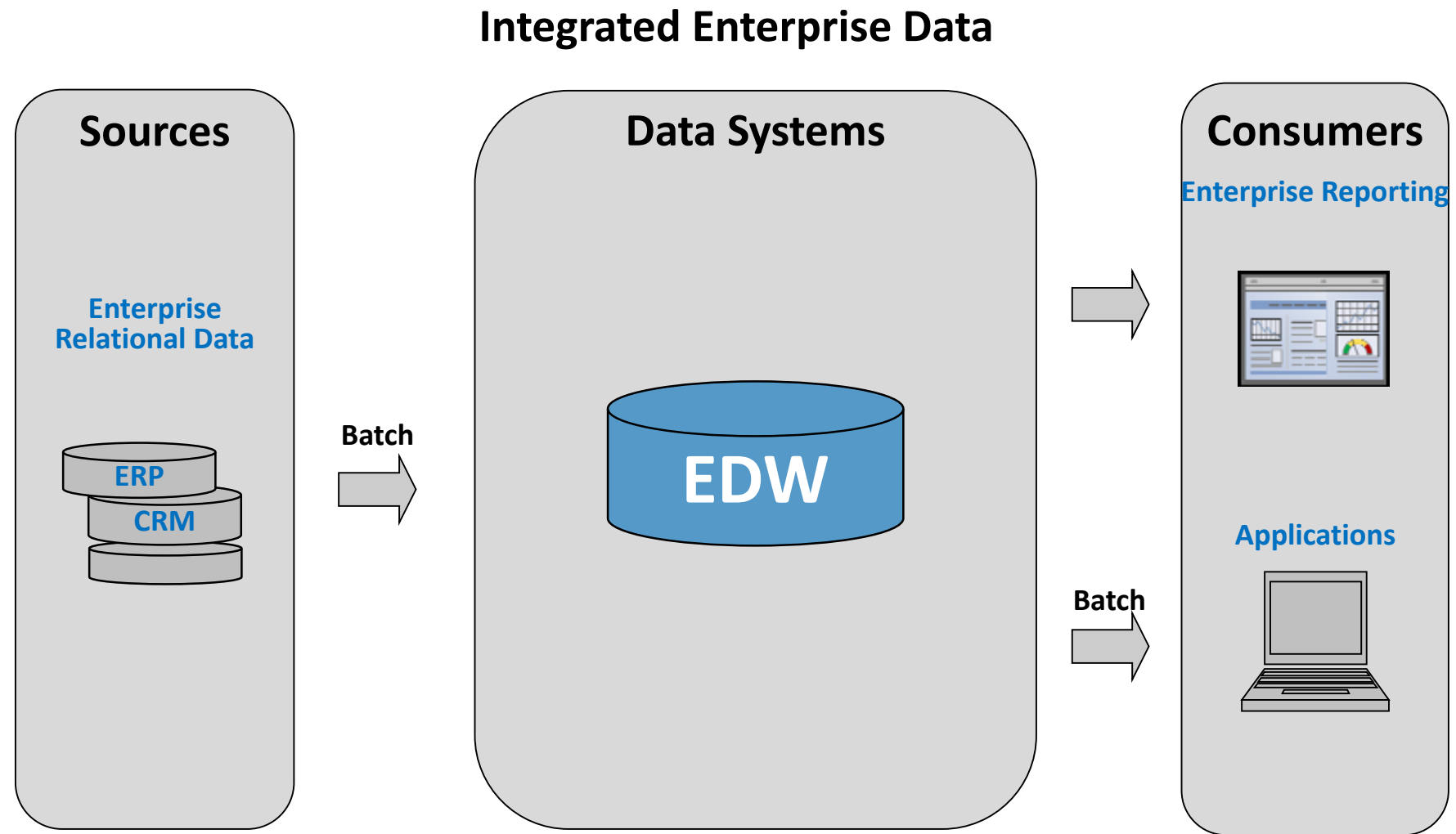


http://mattturck.com/bigdata2018/

**Integrated Enterprise Data**

**Sources**

Enterprise Relational Data

ERP

CRM

**Batch**

**Data Systems**

EDW

**Consumers**

Enterprise Reporting

Applications

**Batch**

**Key Skills:** Data Analysis, SQL, Modeling, Database Administration, ETL Development, Reporting

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# ~2010 - Big Data

## Consolidated Diverse Data
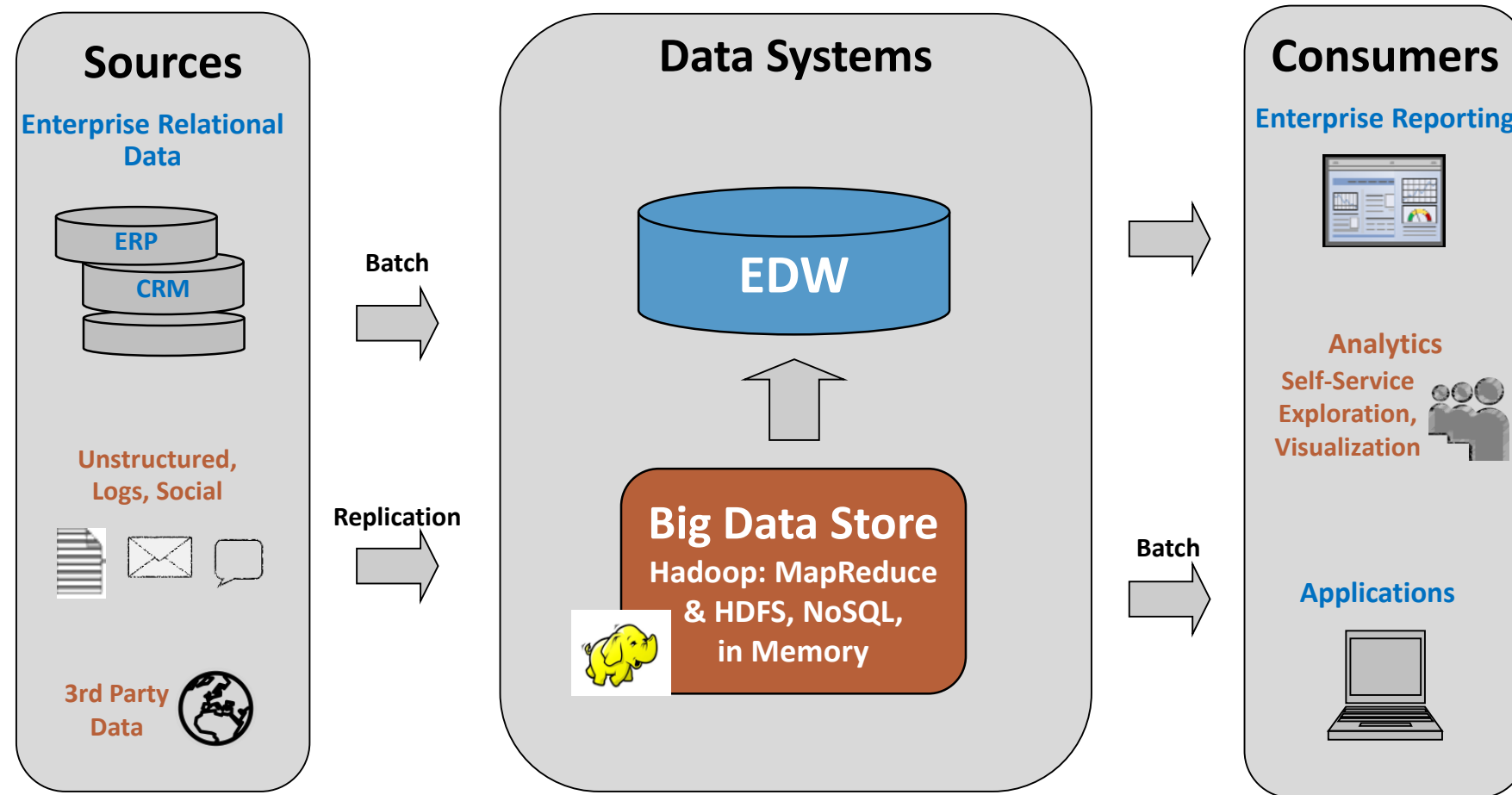
### Sources

**Enterprise Relational Data**

ERP

CRM

Batch →

**Unstructured, Logs, Social**

Replication →

**3rd Party Data**

### Data Systems

**EDW**

↑

**Big Data Store**
Hadoop: MapReduce & HDFS, NoSQL, in Memory

### Consumers

**Enterprise Reporting**

**Analytics**
Self-Service Exploration, Visualization

Batch →

**Applications**

**Key Skills:** Data Analysis, SQL, Modeling, Database Administration, ETL Development, Reporting, Visualization, Distributed Data Administration, Object-Oriented Programming

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## Machine Learning, Predictive and Real-time Analytics, Automation
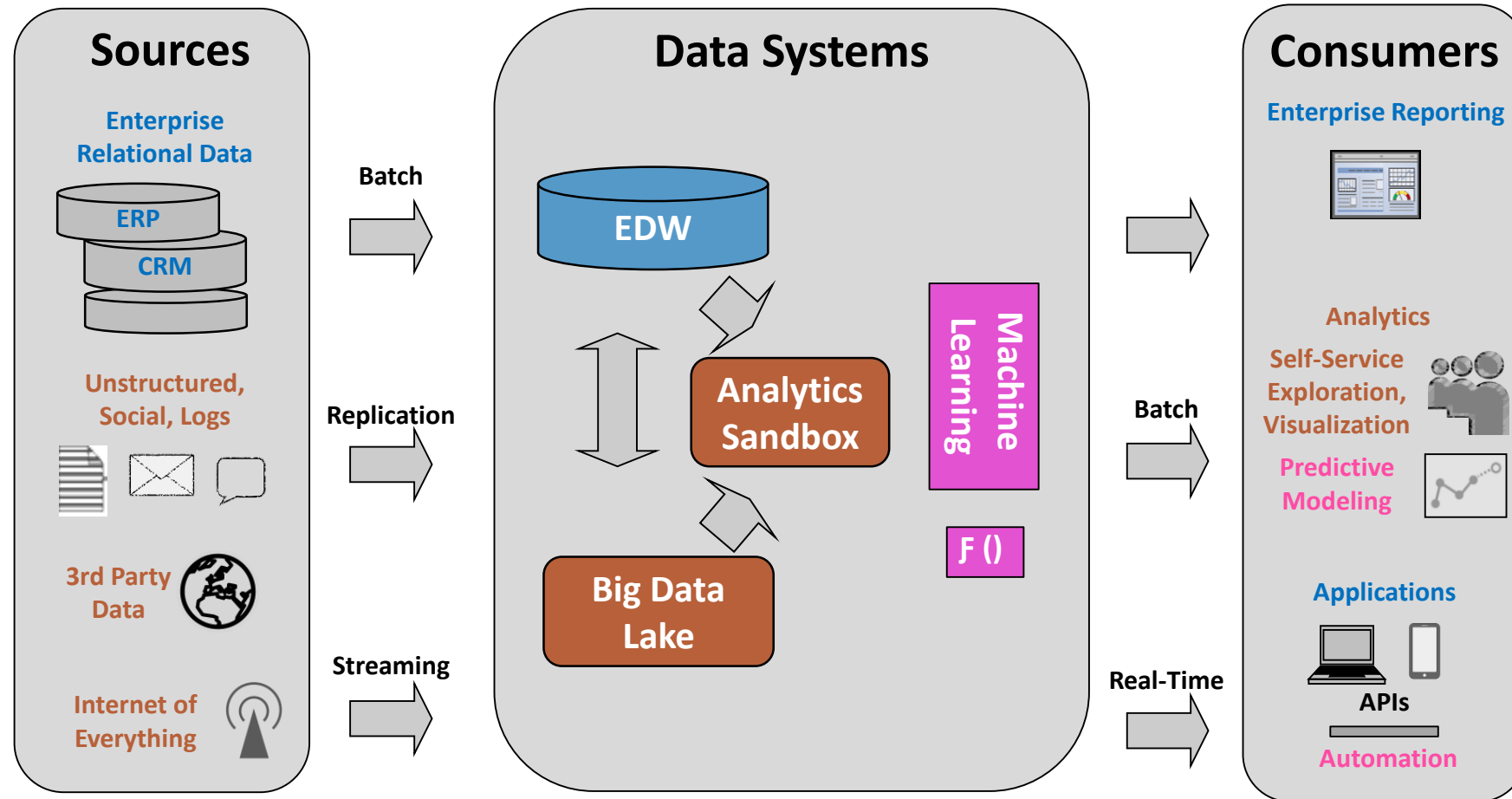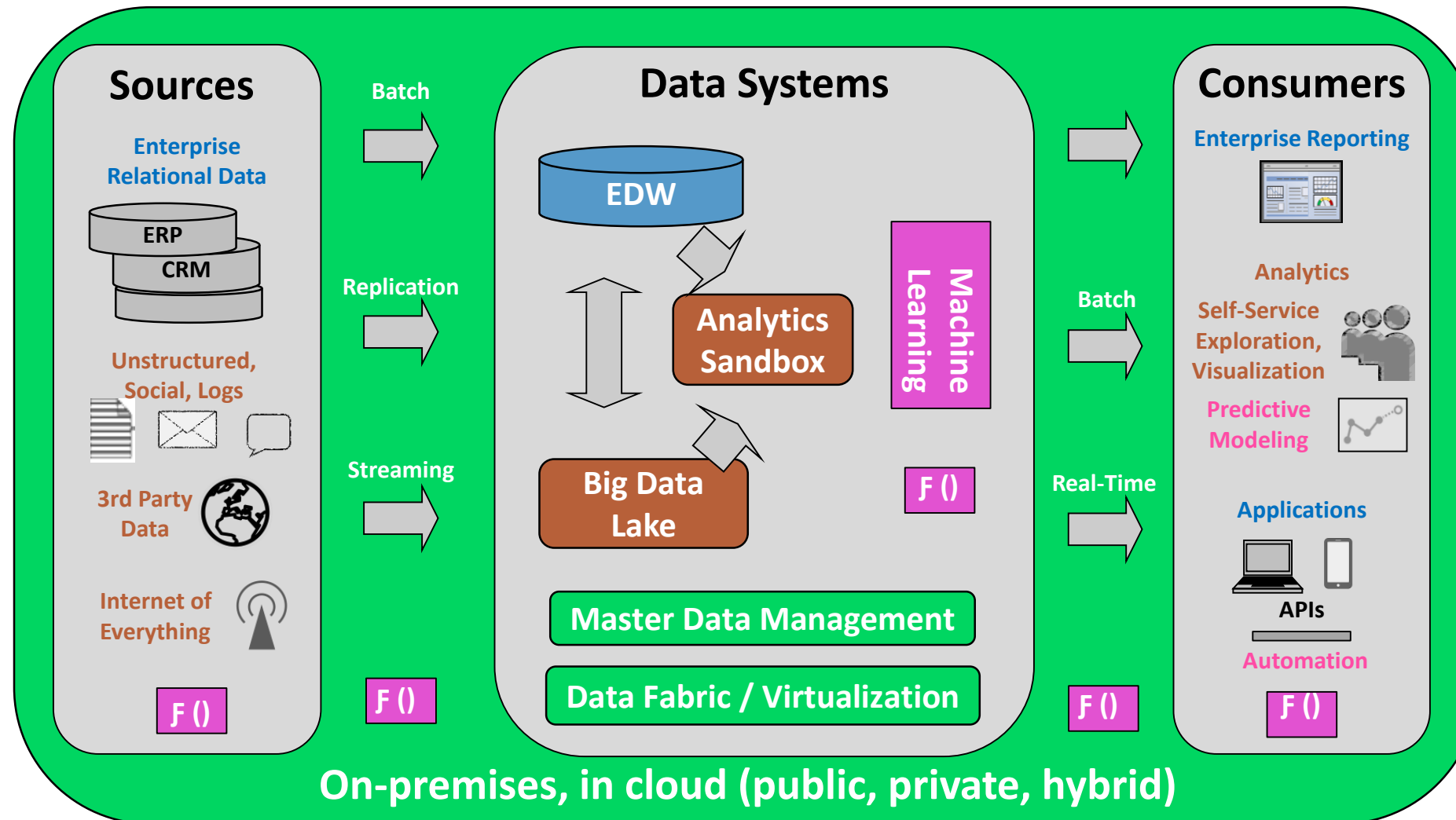


**Key Skills:** Data Analysis, SQL, Modeling, Database Administration, ETL Development, Reporting, Visualization, Distributed Data Administration, Object-Oriented Programming, A.I., Machine Learning, Deep Learning, Natural Language Processing, Automation.

# ~2018+ - Interconnected Intelligent Enterprise

**Distributed Interconnected Systems, Analytics Everywhere, Cloud**

**Sources**
- Enterprise Relational Data
  - ERP
  - CRM
- Unstructured, Social, Logs
- 3rd Party Data
- Internet of Everything

Batch → Replication → Streaming →

**Data Systems**
- EDW
- Analytics Sandbox
- Machine Learning
- Big Data Lake
- Master Data Management
- Data Fabric / Virtualization

Batch → Real-Time →

**Consumers**
- Enterprise Reporting
- Analytics
- Self-Service Exploration, Visualization
- Predictive Modeling
- Applications
  - APIs
  - Automation

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**On-premises, in cloud (public, private, hybrid)**

**Key Skills:** Data Analysis, SQL, Modeling, Database Administration, ETL Development, Reporting, Visualization, Distributed Data Administration, Object-Oriented Programming, A.I., Machine Learning, Deep Learning, Natural Language Processing, Automation, Services, Cloud, Security

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