

Exploring Artificial Intelligence

@muammara 

#TechTour

Ahmad Muammar 

Ahmad Muammar
Regional Presales Director

Biography

20+ Years in Technology & Leadership
MBA Big Data Thesis
Several Transformation Projects
Deeplearning.ai Certificate
AWS Big Data Specialist
AWS Machine Learning Specialist
Several courses from Stanford, John's Hopkins and UCSD
Proud husband and father of four kids
@muammara 
#TechTour





Tell me more!

A man with dark curly hair and glasses is shown from the chest up, sitting in bed. He has his right hand on his forehead, looking weary or stressed. He is wearing a black t-shirt. The background shows a bed with white and red bedding. In the top right corner of the image, there is white text that reads "Not AI Again".

Not AI Again

Artificial Intelligence



DATA & LANDSCAPE 2019



www.ijerph.com



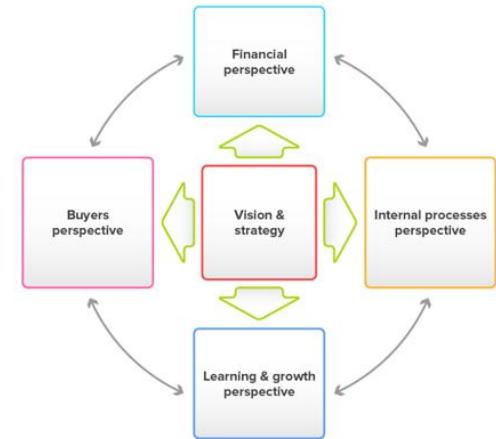
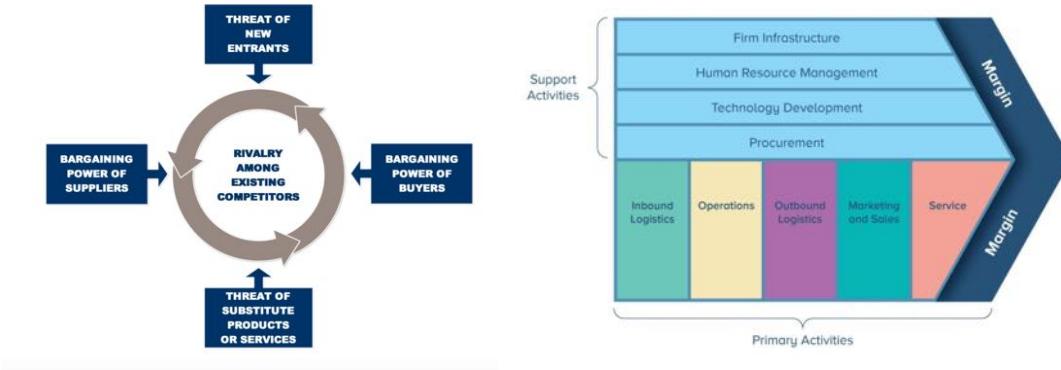
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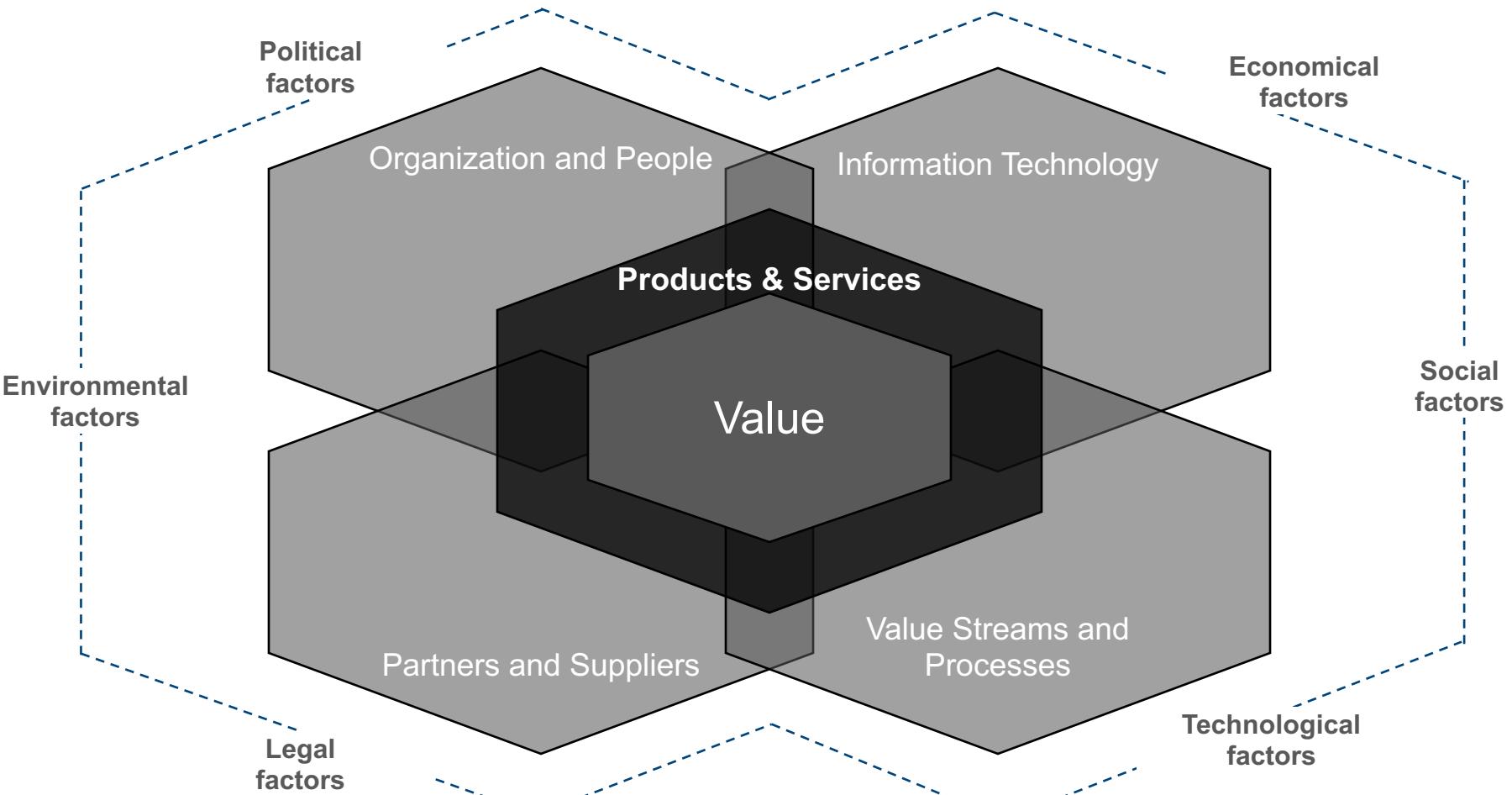


Analytics Strategy

“There is no such thing as Big Data Strategy, there is a business Strategy embedding data”

Dean Of Big Data





A Framework for Applying AI in the Enterprise

Core AI Technologies

Learning

Language

Vision

Key AI Support Technologies

Analytics

Data Science

Automation

Common AI Solution Areas

Virtual Assistants

Conversational

Predictive Analytics

Process Automation

Imbedded AI

AI Throughout the Enterprise

Customer Service

HR

Marketing

Sales

Security/Fraud

... Many Others

Strategic AI Applications

Competitive Differentiation

Use Cases

Use Cases, Vary by Segment and Industry

Objectives

Objectives and Business Results Vary by Business

Core AI Technologies

Common Solution Areas

Applications

Use Cases

Objectives/
Business Results

Vast Use Cases and Incremental Opportunity

Transportation



- Assisted Driving
- Self Driving
- Design & Manufacture

Healthcare



- Rehabilitation
- Assisted Diagnosis
- Treatment Refinement

Financial



- Fraud Detection
- Risk Assessment
- Market Predictions

Retail



- Modeling & Design
- Personalization
- Supply Optimization

Industrial



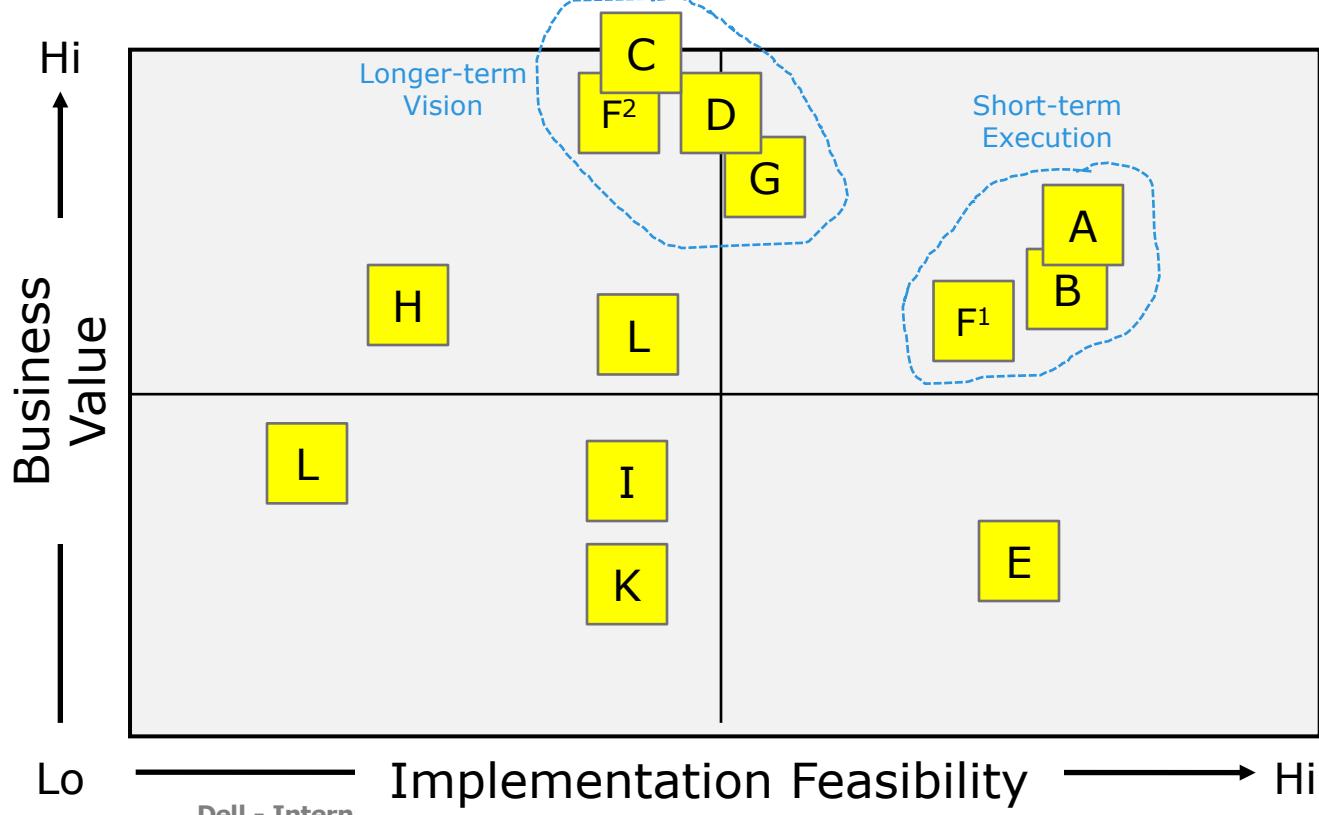
- Loss Preventions
- Predictive Maintenance
- Resource Optimization

Agriculture



- Production Yields
- Pesticide Reduction
- Market Predictions

Use Case Prioritization



Use Cases

- (A) Analytic Product Enhancement
- (B) Personalized Rewards
- (C) Mobile Offers
- (D) Analytics as a Service
- (E) Call Center Optimization
- (F¹) Fraud Prevention – (Enhancements)
- (F²) Fraud Prevention (Aspirational)
- (G) Efficient Underwriting
- (H) B2C
- (I) Lending Products
- (J) Non-payments products
- (K) Cross-sell
- (L) New Use Cases

Analytics Maturity Model

Traditional
BI/DW

+ Real-Time Technologies

+ *Predictive Analytics*

+ Hadoop



Business
Monitoring



Business
Insight



Business
Optimization



Data
Monetization

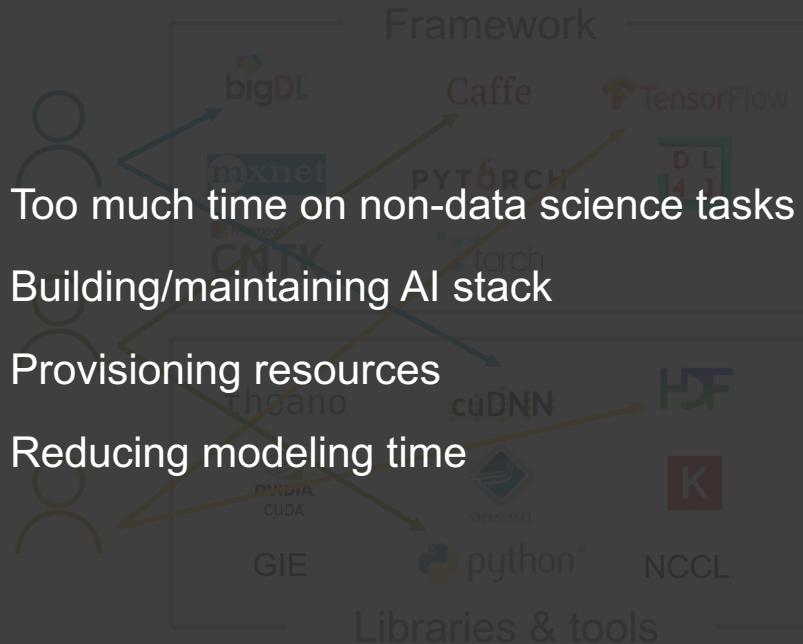


Business
Metamorphosis

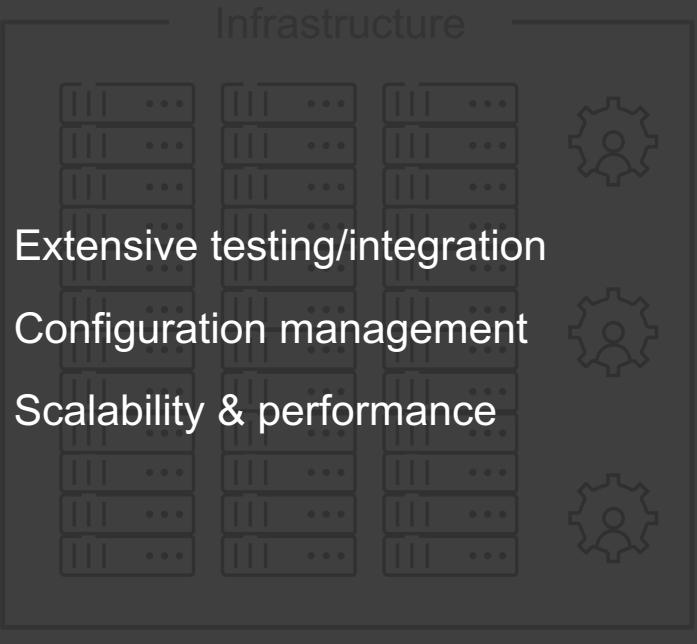


Lots of Moving Parts

DATA SCIENTISTS



IT OPERATIONS



IT OPERATIONS

Simpler deployment

Spend less time building complex AI stack



IT OPERATIONS

Reliable & scalable

Meet increasing demands of AI workloads



DATA SCIENTISTS

Self-service environment

Focus on data science not infrastructure



DATA SCIENTISTS

Trusted

Partner to accelerate results & single vendor



What customers need

Dell EMC Ready Solutions for AI

Deep Learning with Intel

- All-Intel tightly-coupled platform
- Evolves into a fully integrated software environment for optimizing the complete range of Intel based processors and acceleration hardware



Deep Learning with NVIDIA

- Complete solution, including GPU-aware cluster management and widest set of supported modeling frameworks in the portfolio
- Exclusively for deep learning model training, this is the fastest platform



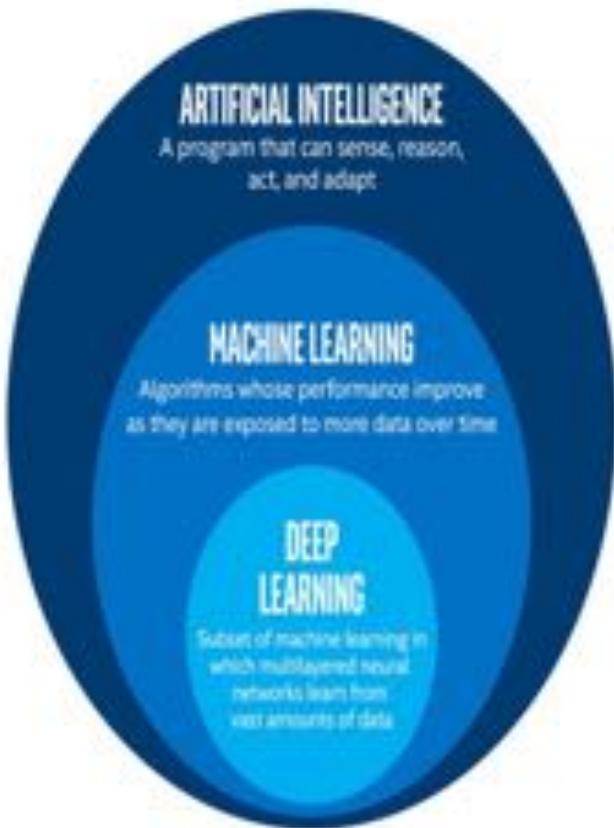
Machine Learning with Hadoop

- Multi-purpose Intel Xeon Hadoop based platform
- For deep learning, machine learning, universal analytics and ETL
- Choice of value-added modular software

AI simplified | faster, deeper AI insights | proven AI expertise

Going To Basics

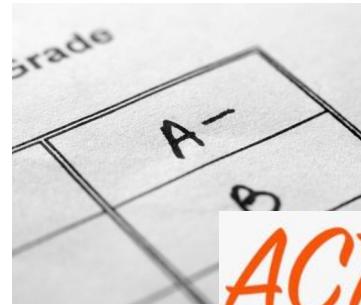
AI, ML and DL: What's the difference?



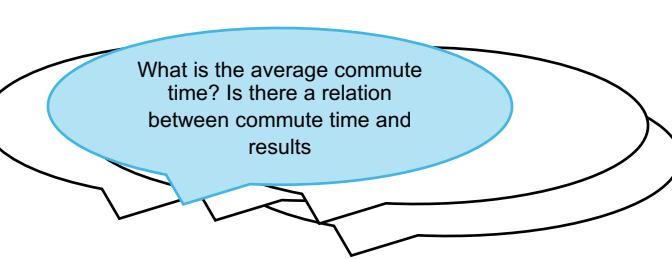
- AI** *applying to any technique that enables computers to mimic human intelligence.*
- ML** *Is an application of AI where the system extracts insights (patterns) from raw data "without being explicitly programmed"*
- DL** *Type of machine learning that uses neural networks to solve problems like speech and image recognition in a hierarchical manner, similar to the way the human brain solves problems.*

Back to School

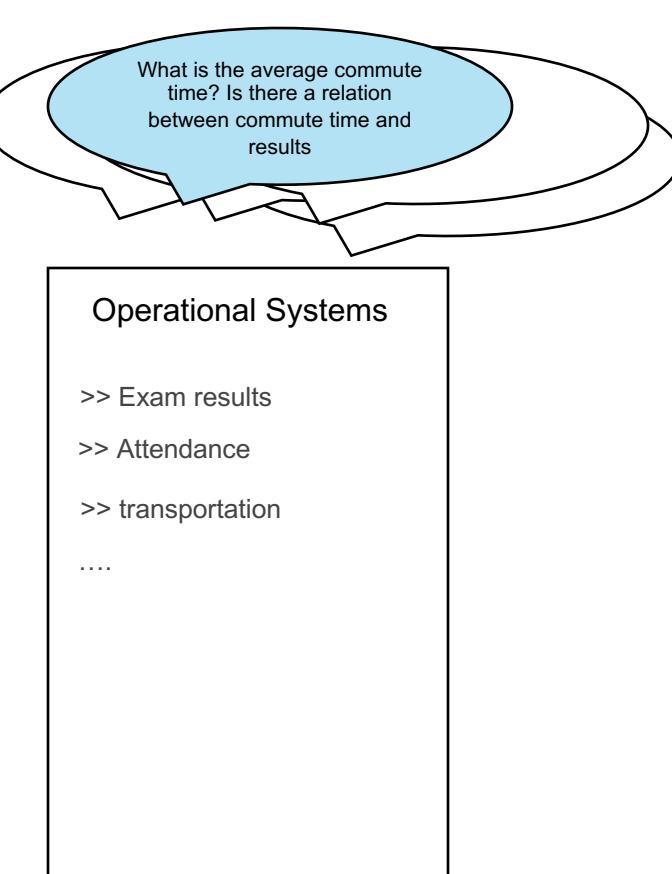




S



What is the average commute time? Is there a relation between commute time and results



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Operational Systems

- >> Exam results
- >> Attendance
- >> transportation
-

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Extract, Transform & Load (ETL)

Ex:

- mapping
`f_name → first_name`
- splitting columns
`Name → first_name, family_name`
- Format change

SAP Data Services



IBM

Informatica

boomi

Microsoft SQL Server Integration Services

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SAP Data Services



IBM

Informatica



Data warehousing

A single version of truth



teradata.

ORACLE

EXADATA



VERTICA



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SAP Data Services



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Microsoft
SQL Server
Integration Services

Data warehousing

A single version of truth

Pivotal GPDB

teradata.

ORACLE
EXADATA

VERTICA

Microsoft
SQL Server

N NETEZZA

Caching

Query & Presentation



What is the average commute time? Is there a relation between commute time and results

Operational Systems

- >> Exam results
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SAP Data Services



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ORACLE

EXADATA

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SQL Server

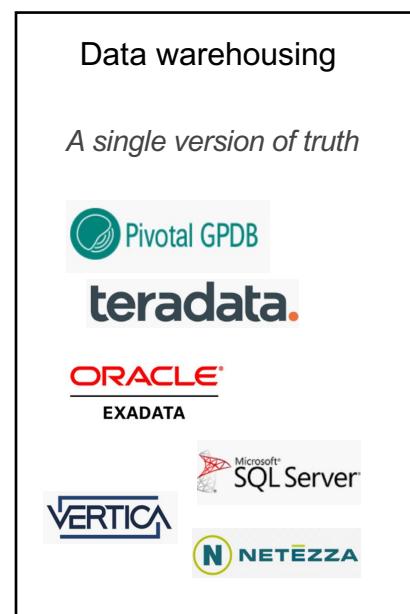
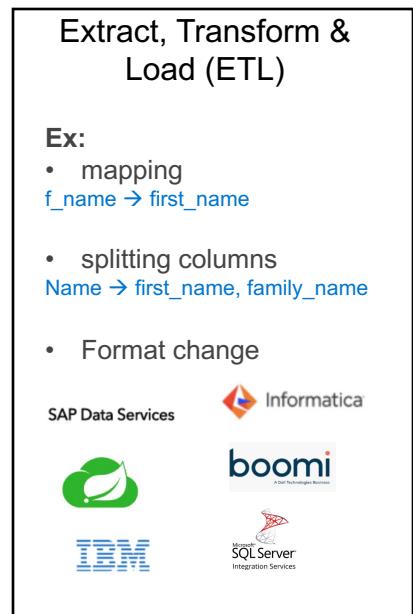
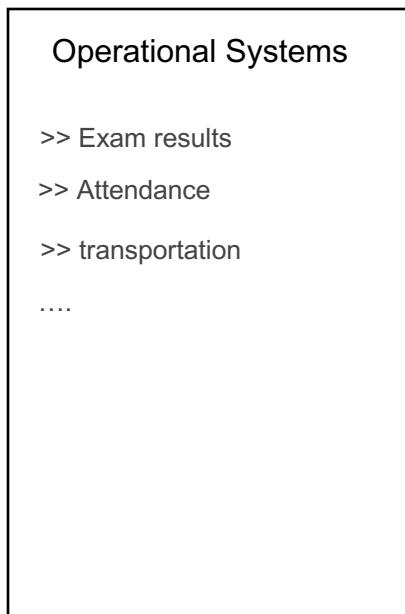
VERTICA

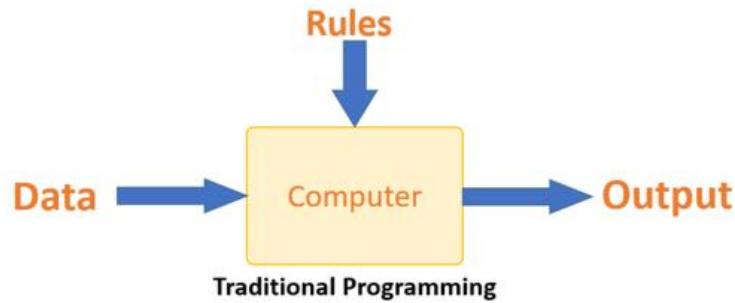
N NETEZZA

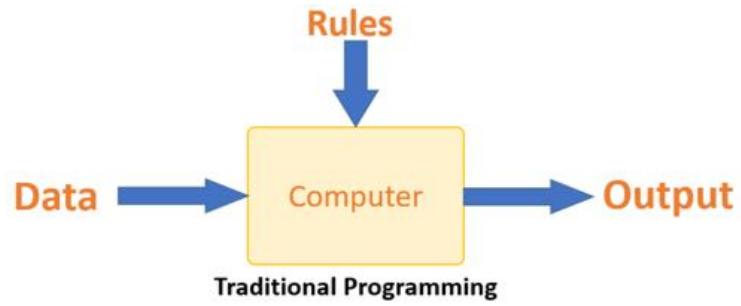
Query & Presentation

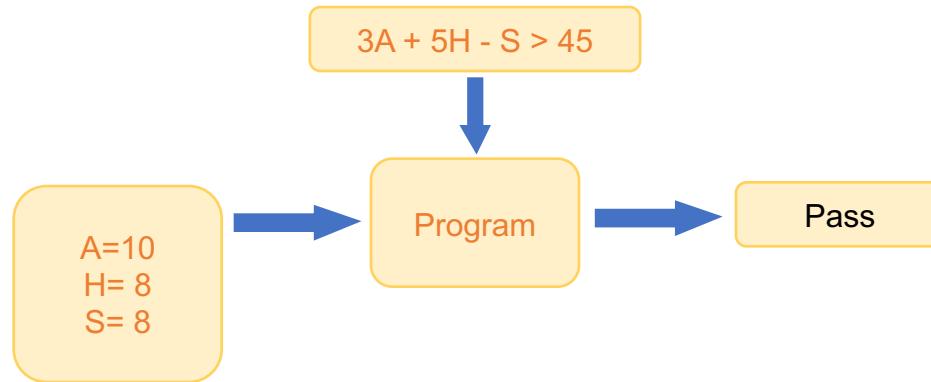
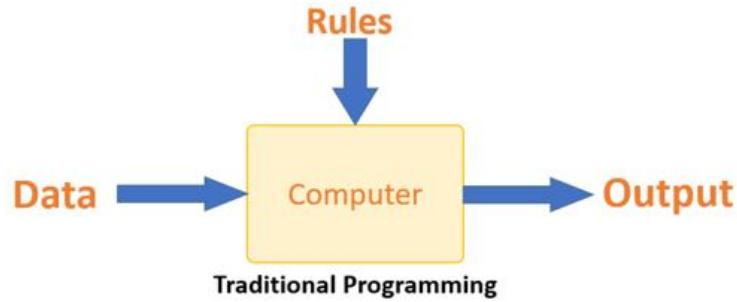


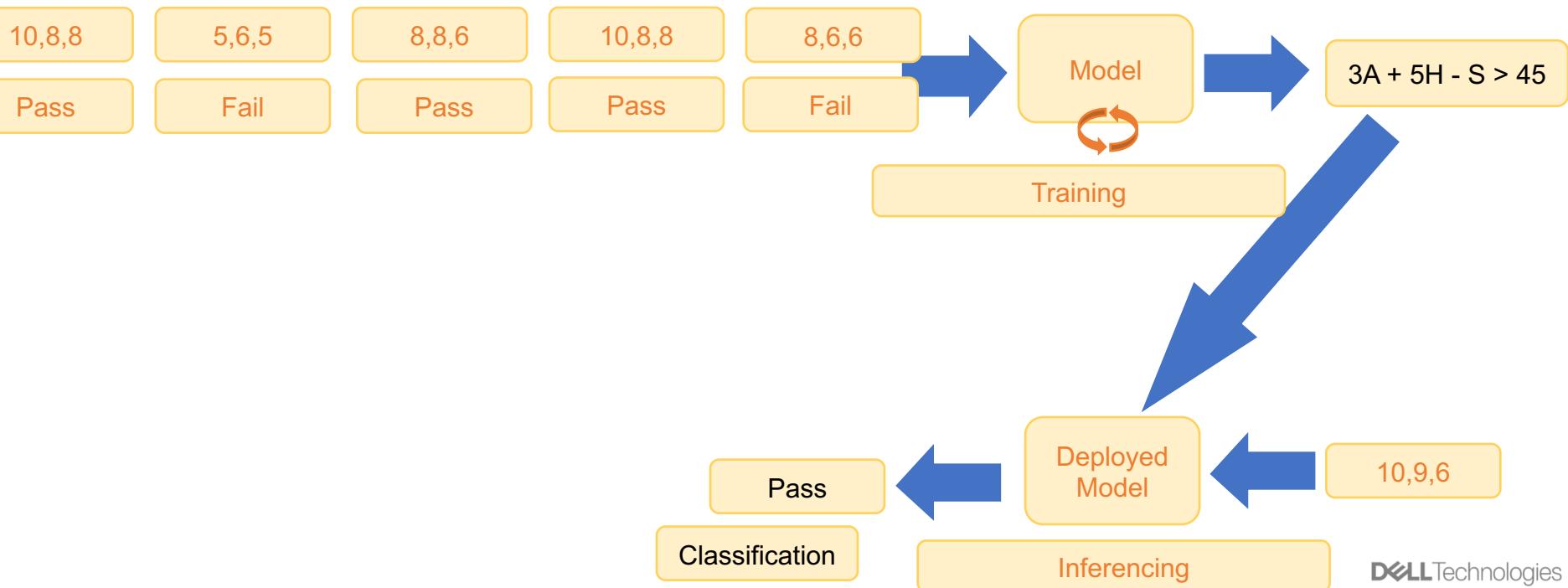
Who are the students who will most likely pass, so I can take corrective measures for the others?





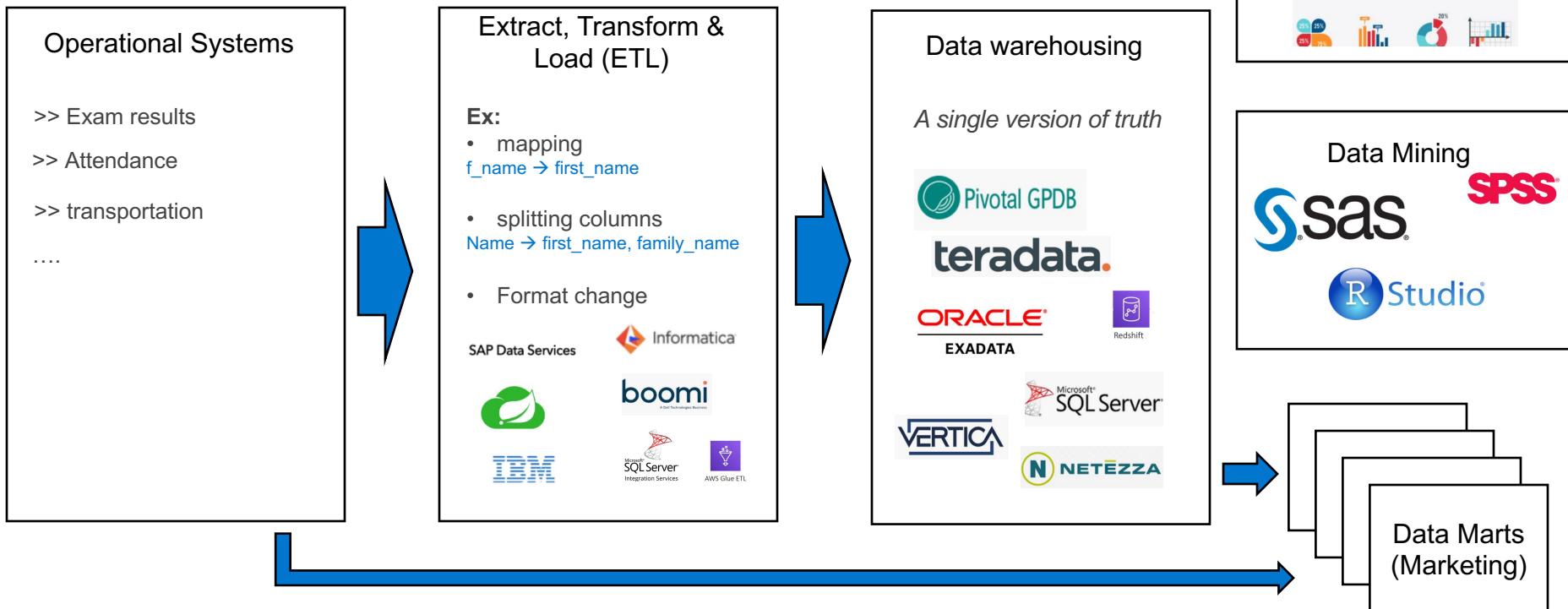








I'm only interested in Marketing, and you are slow!



10,000 Customers

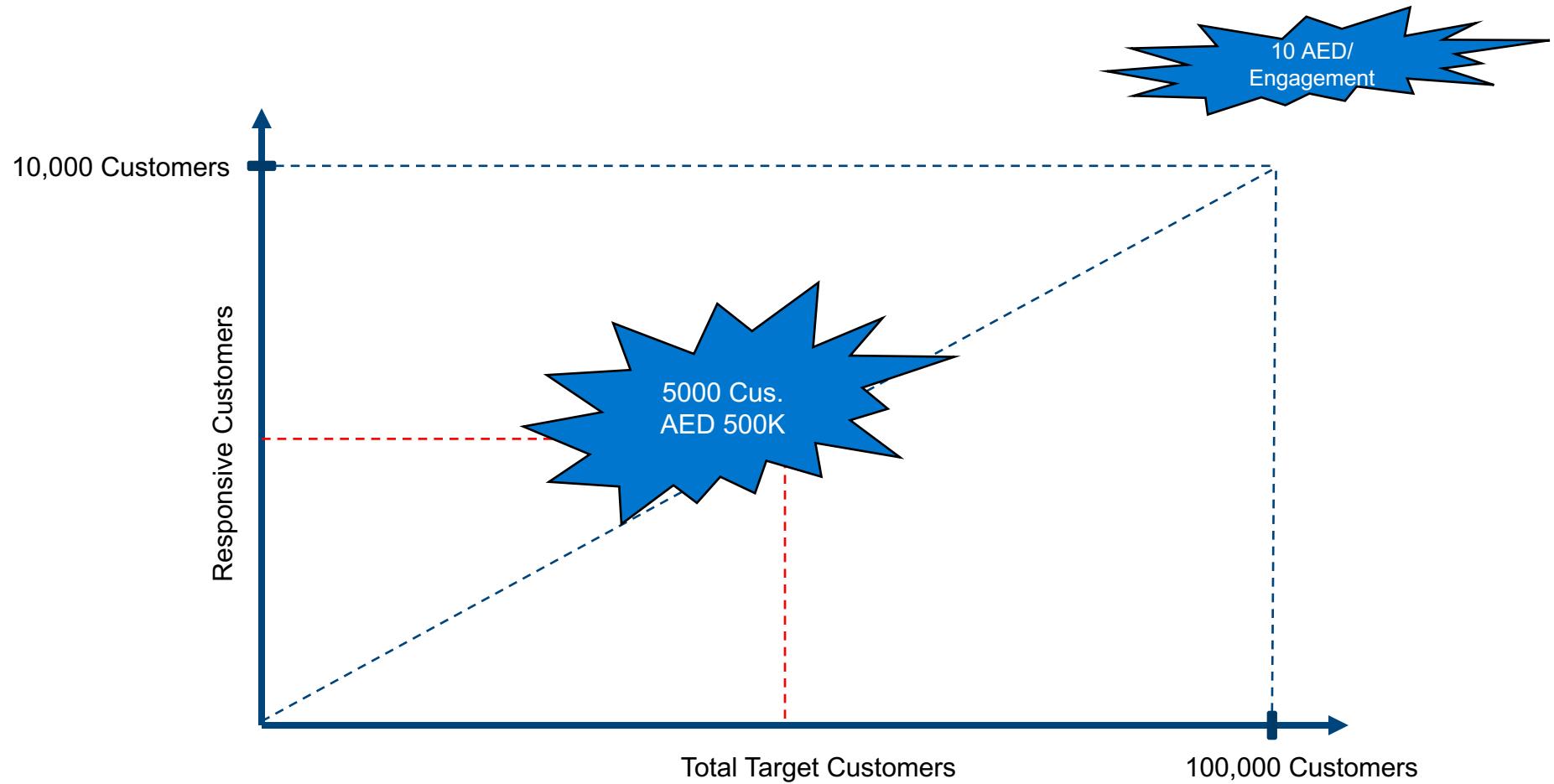
Responsive Customers

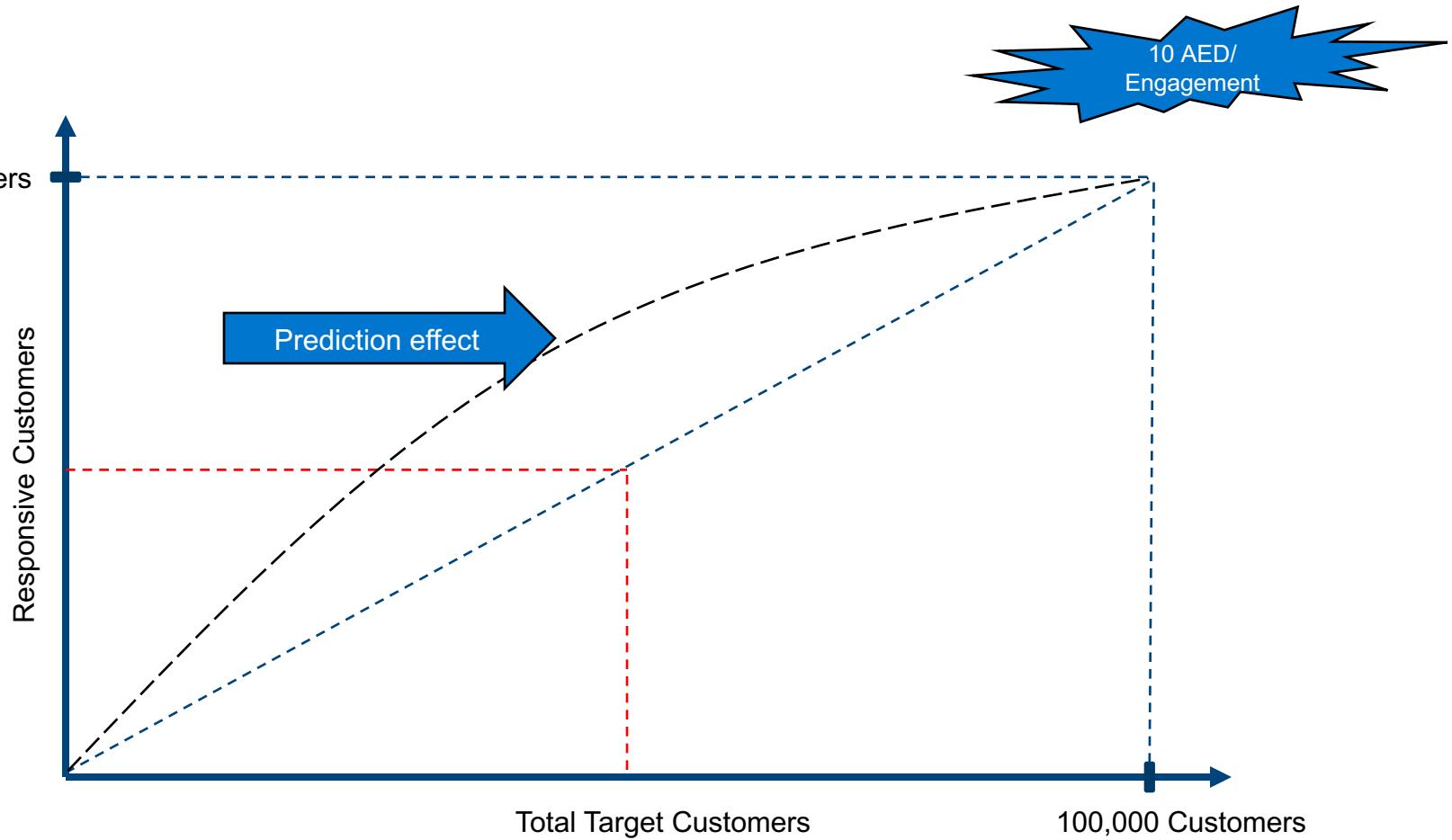
10,000 Cus
AED 1M

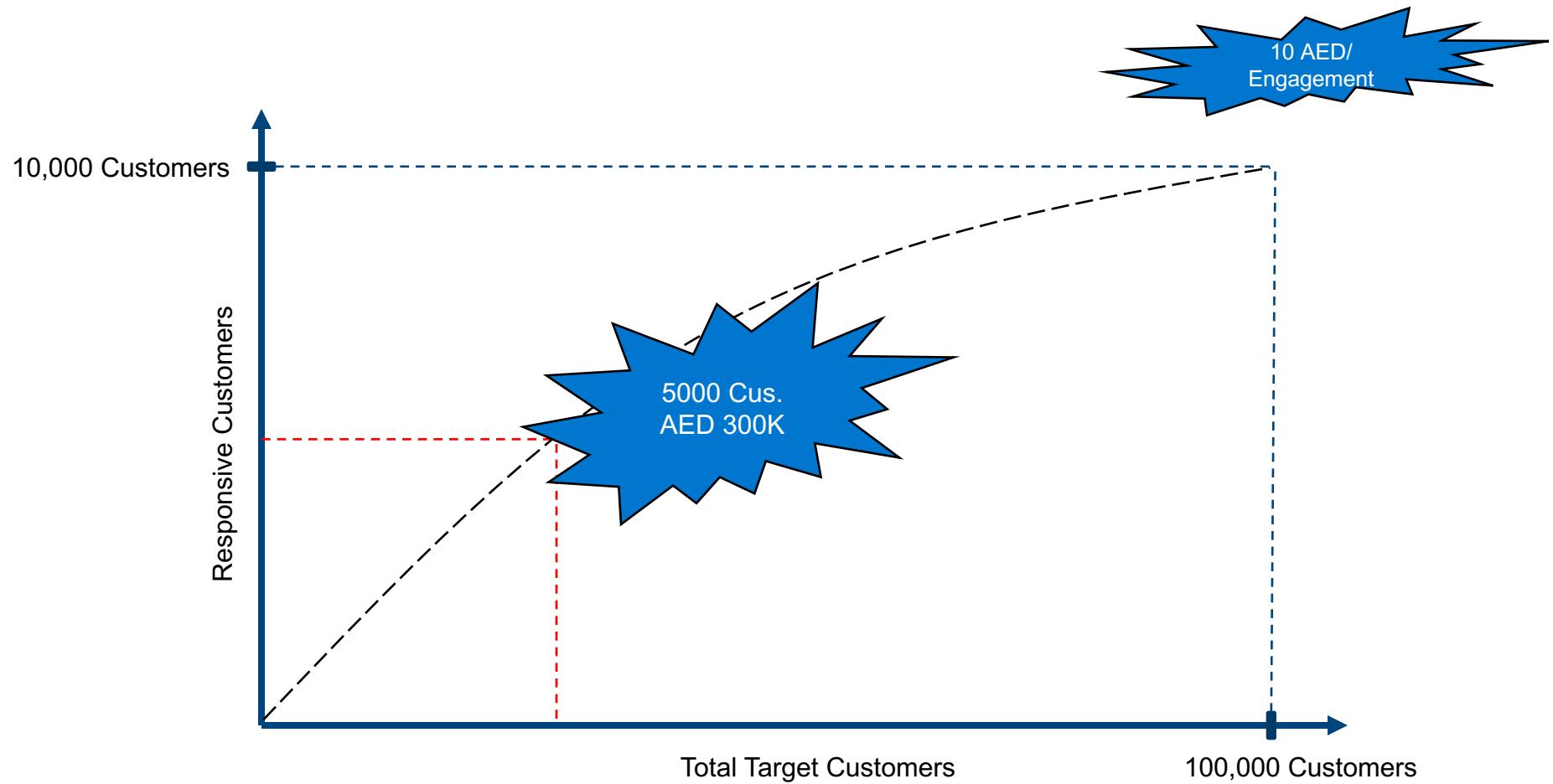
10 AED/
Engagement

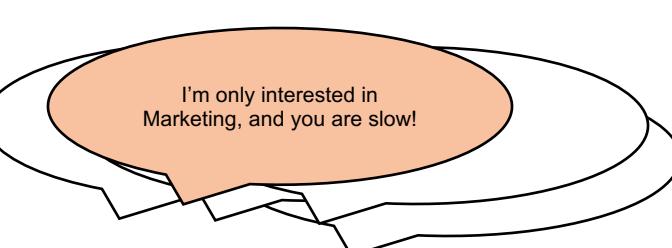
Total Target Customers

100,000 Customers



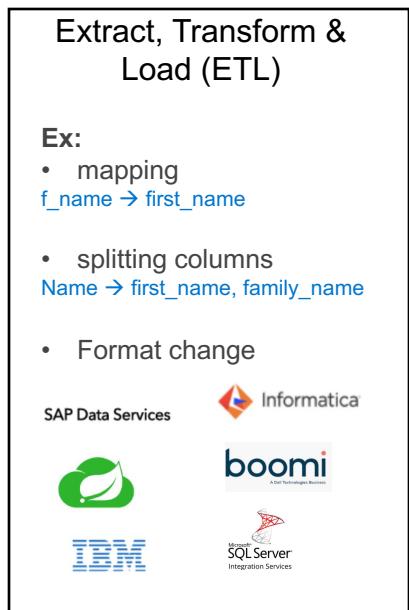
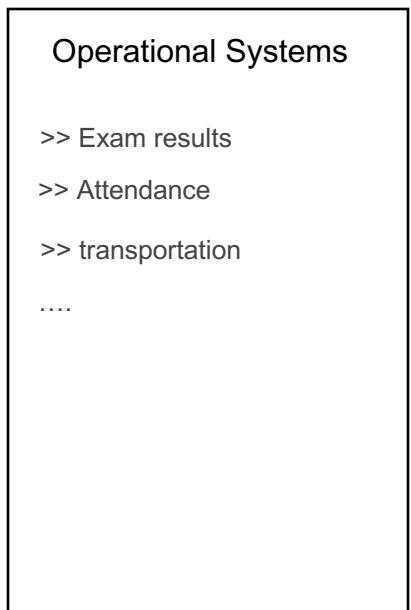






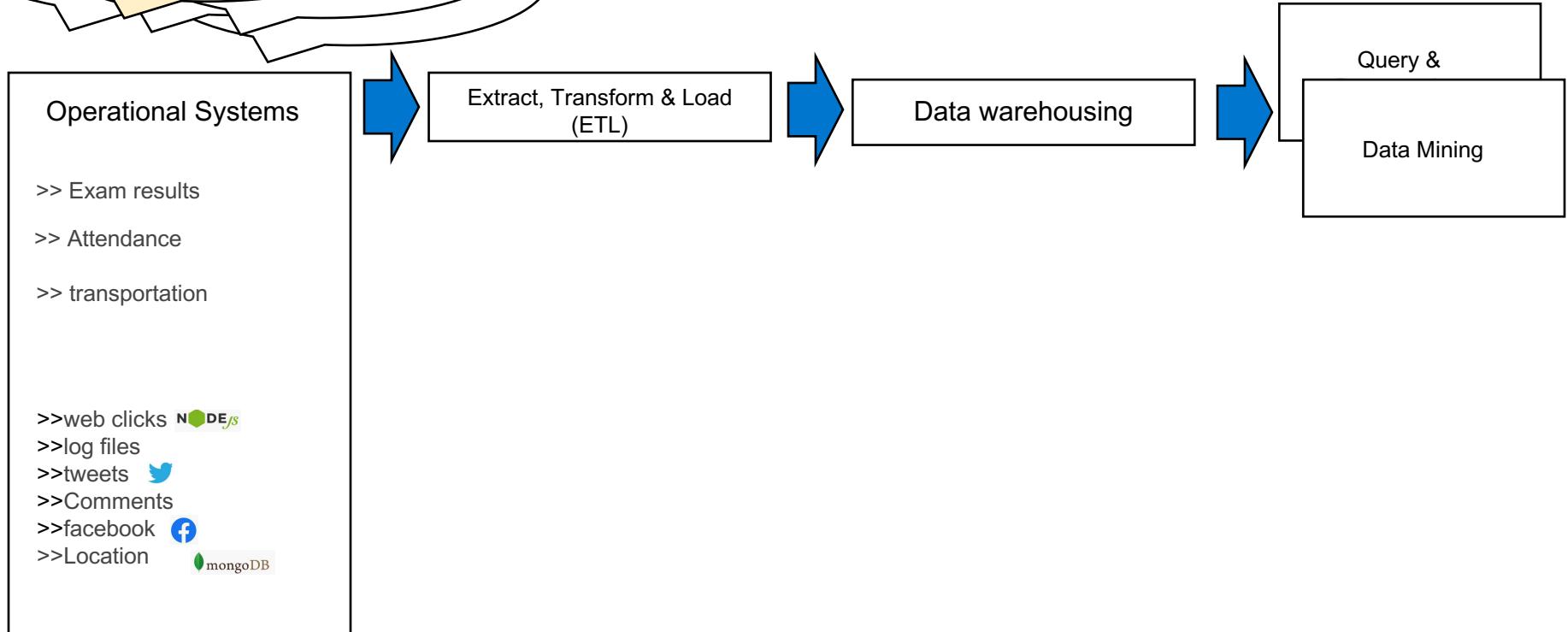
I'm only interested in Marketing, and you are slow!

Back

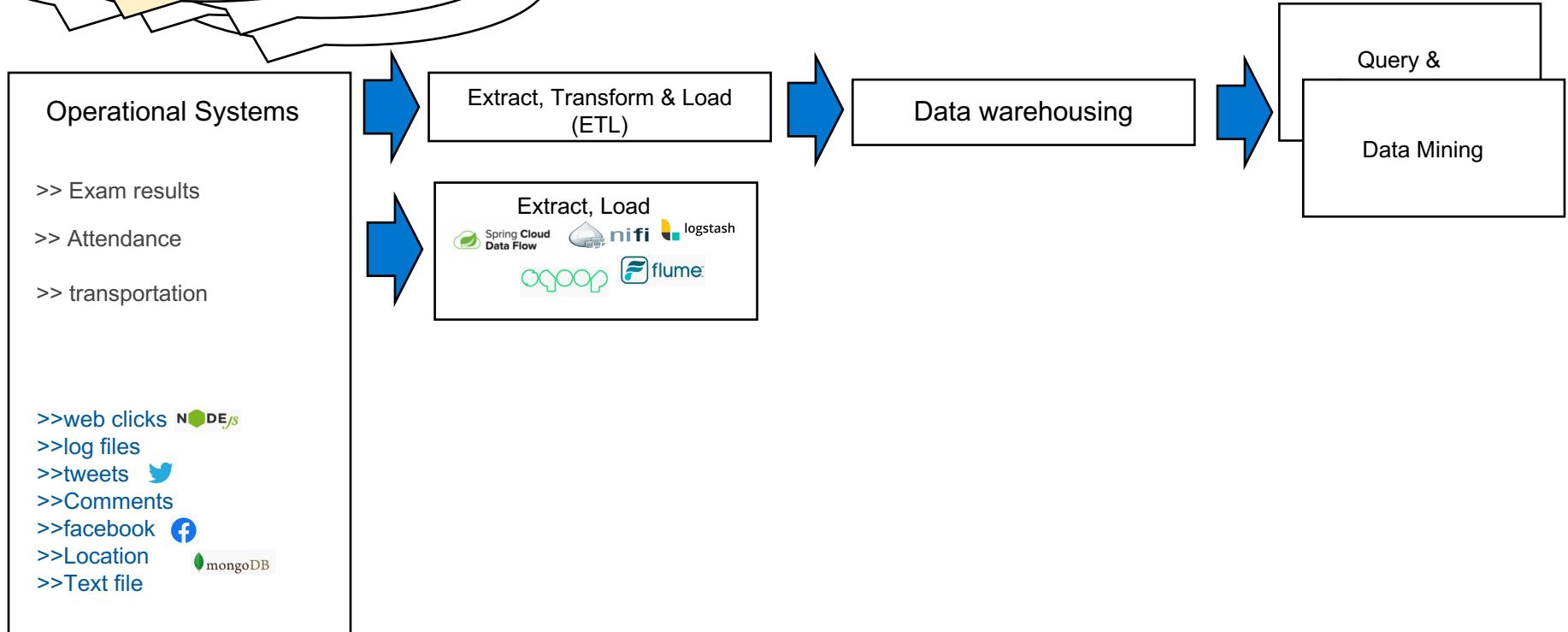


Data Marts
(Marketing)

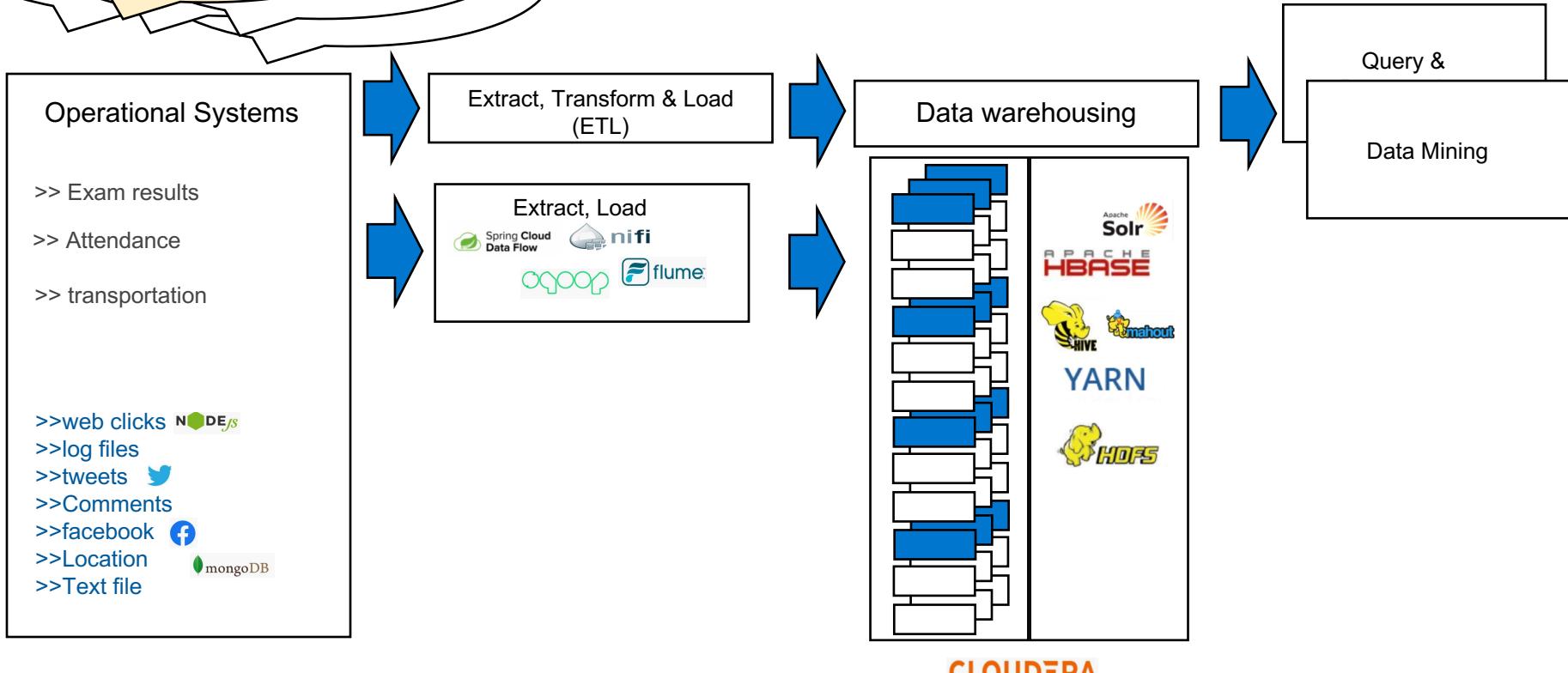
Are my ads effective? Will the users click my ads?



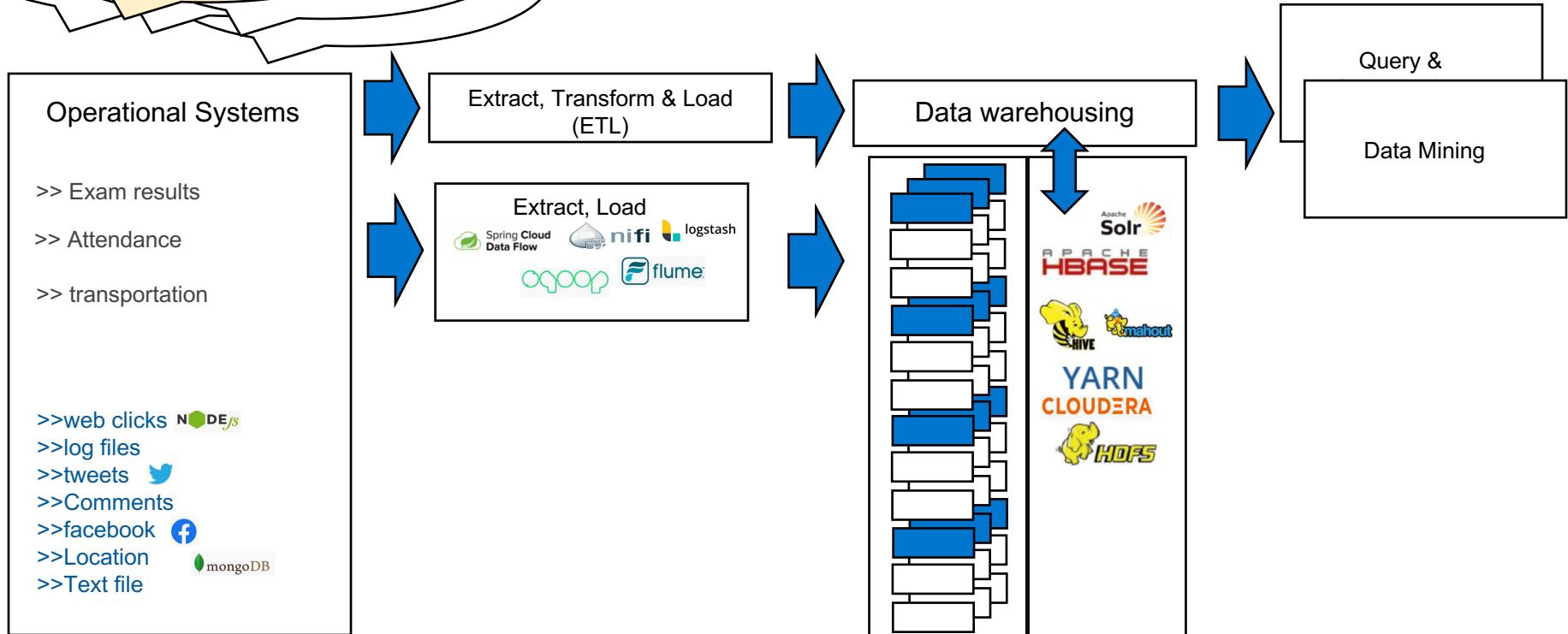
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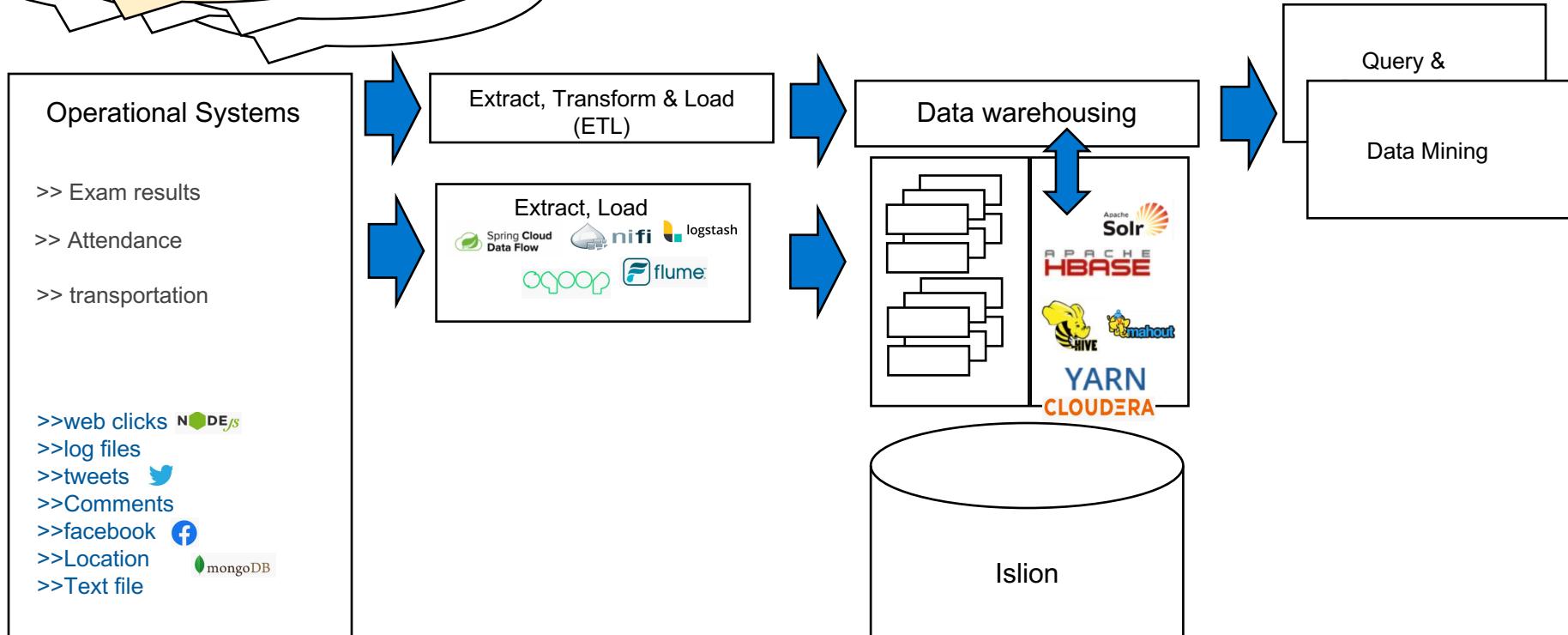
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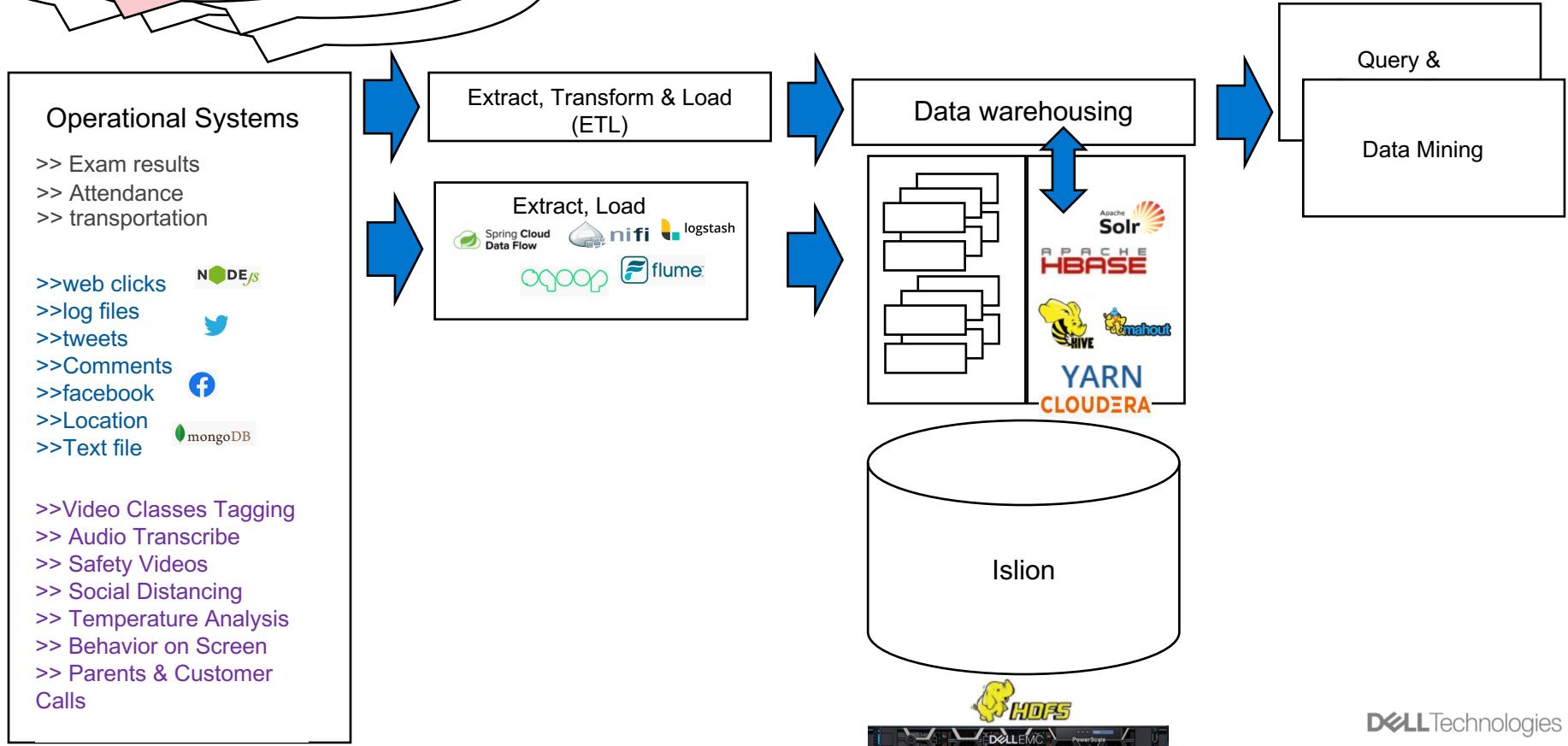
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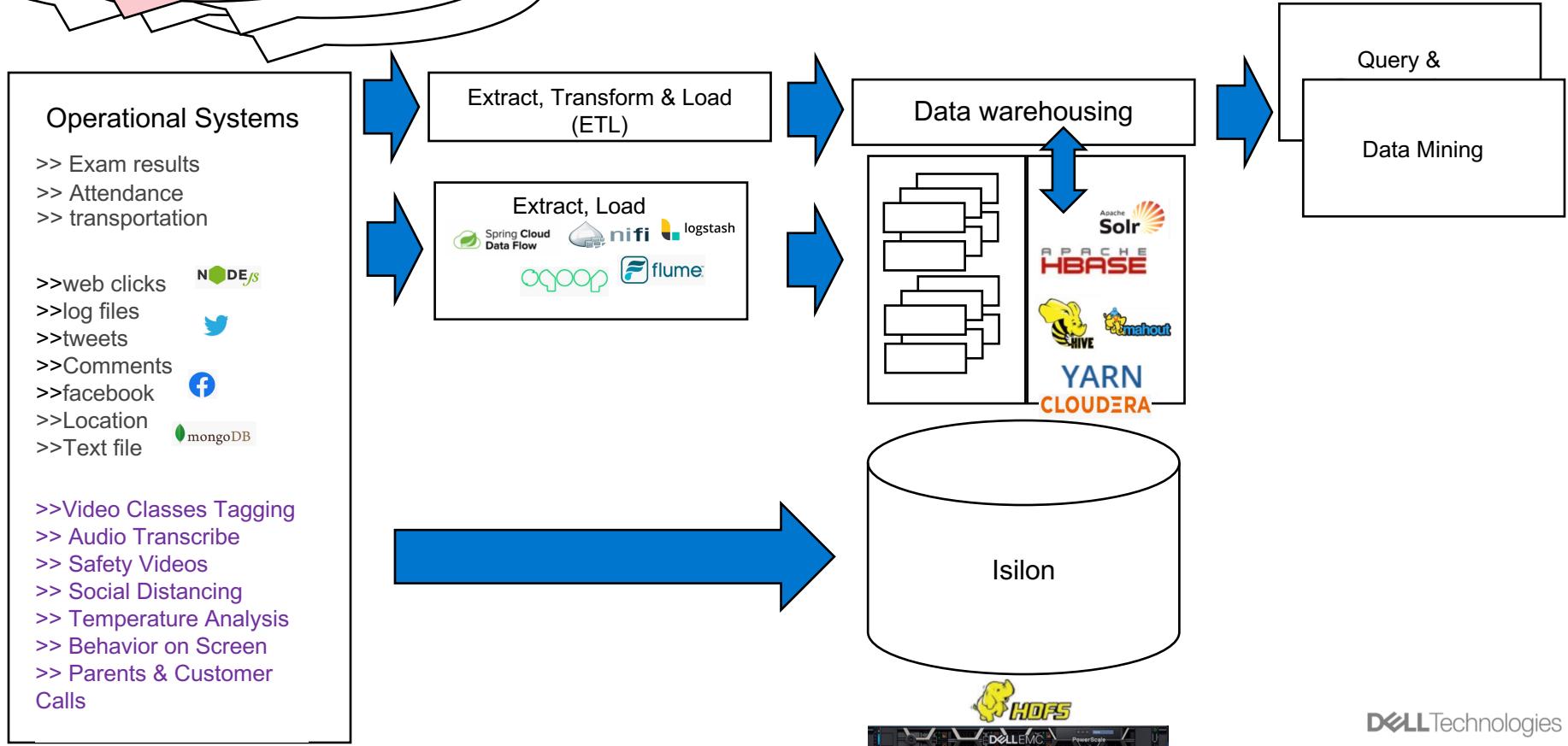
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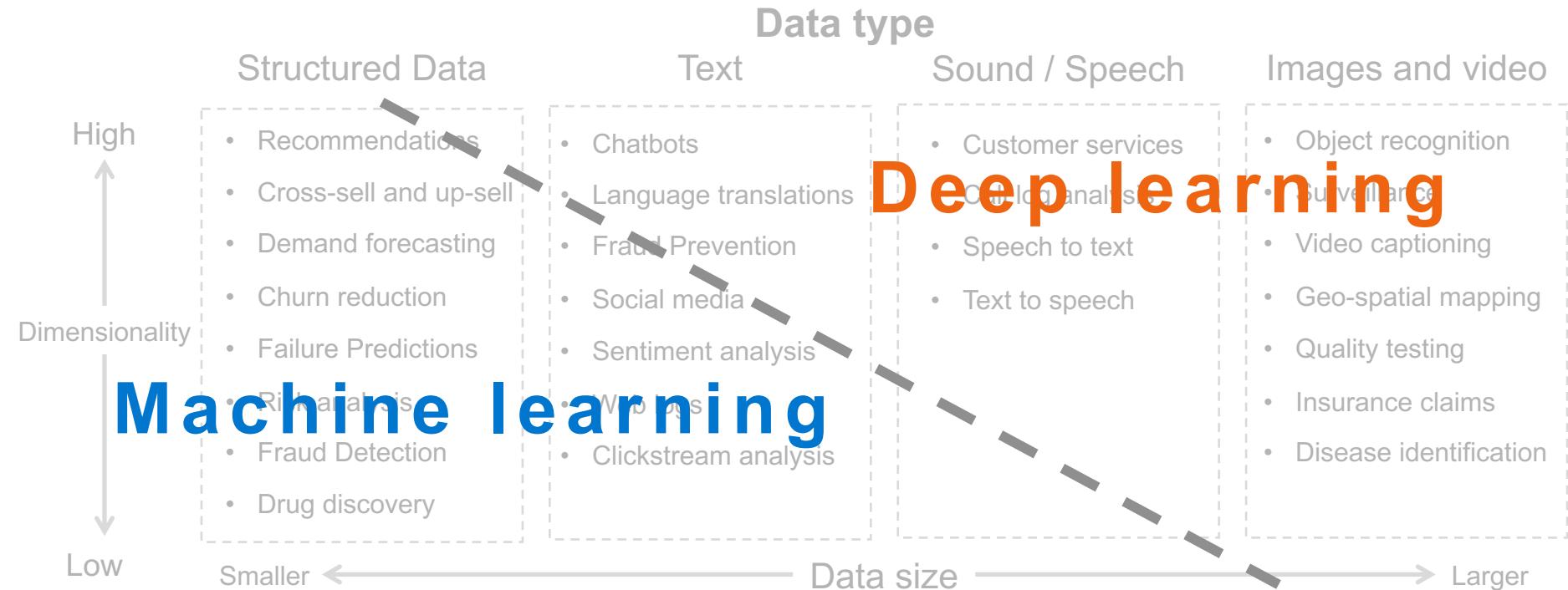
Can I use the rich media to gain insight?



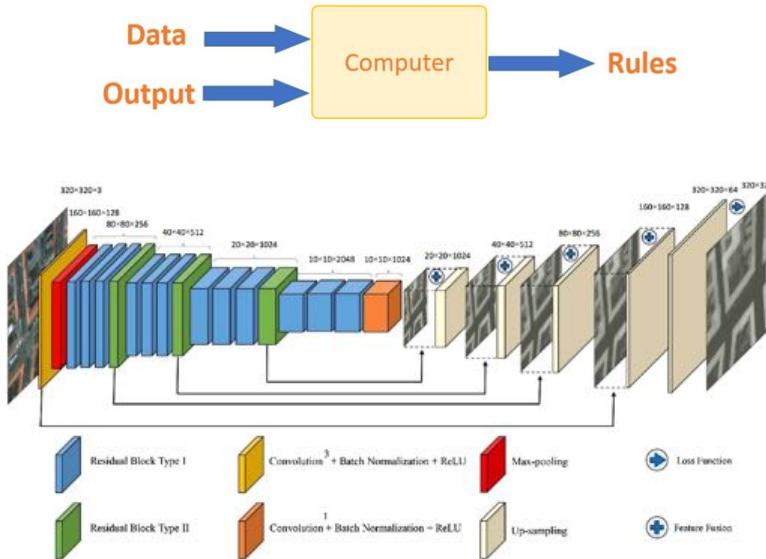
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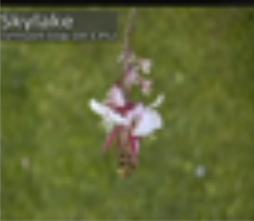
Machine learning/deep learning alignment



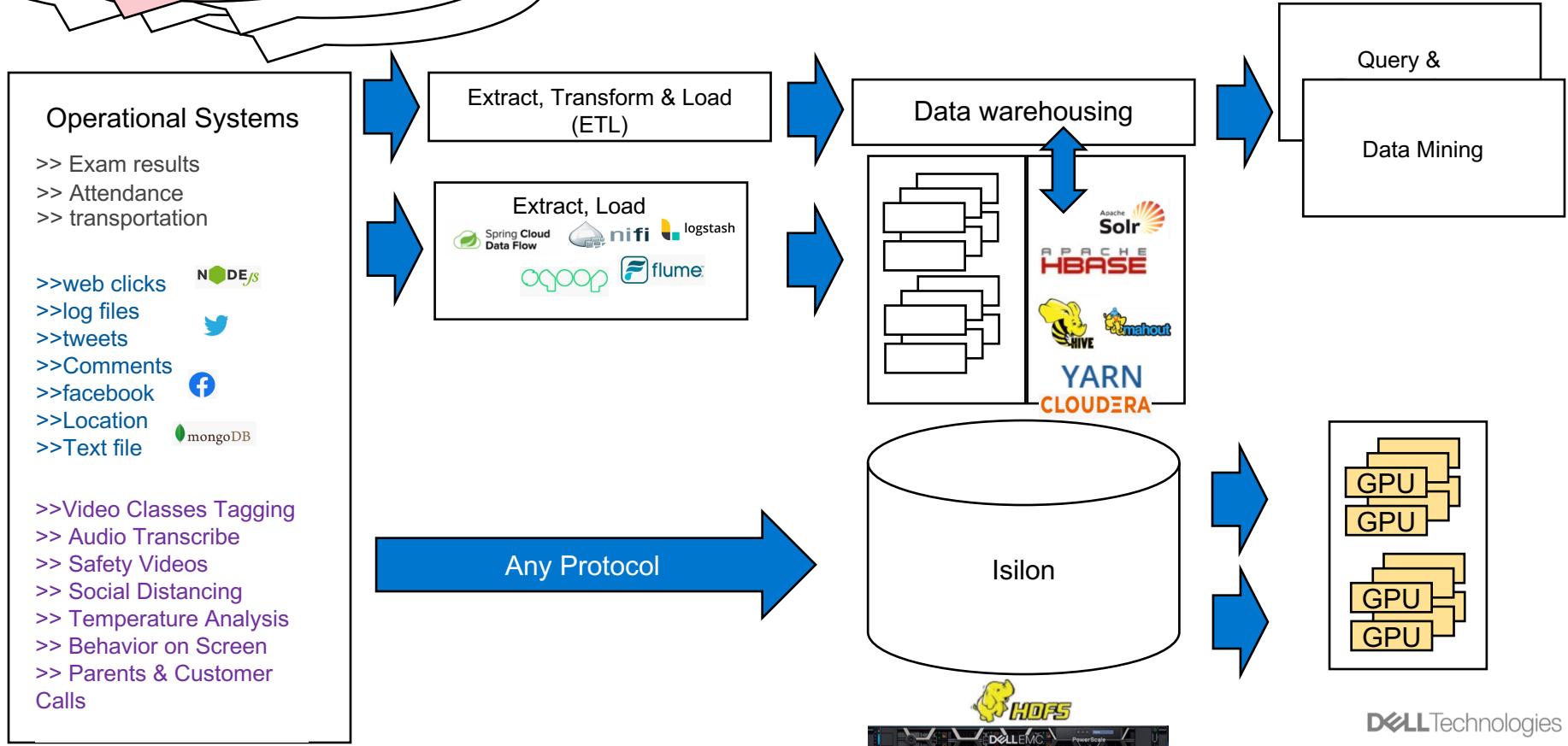
Deeplearning CV



SkyLake



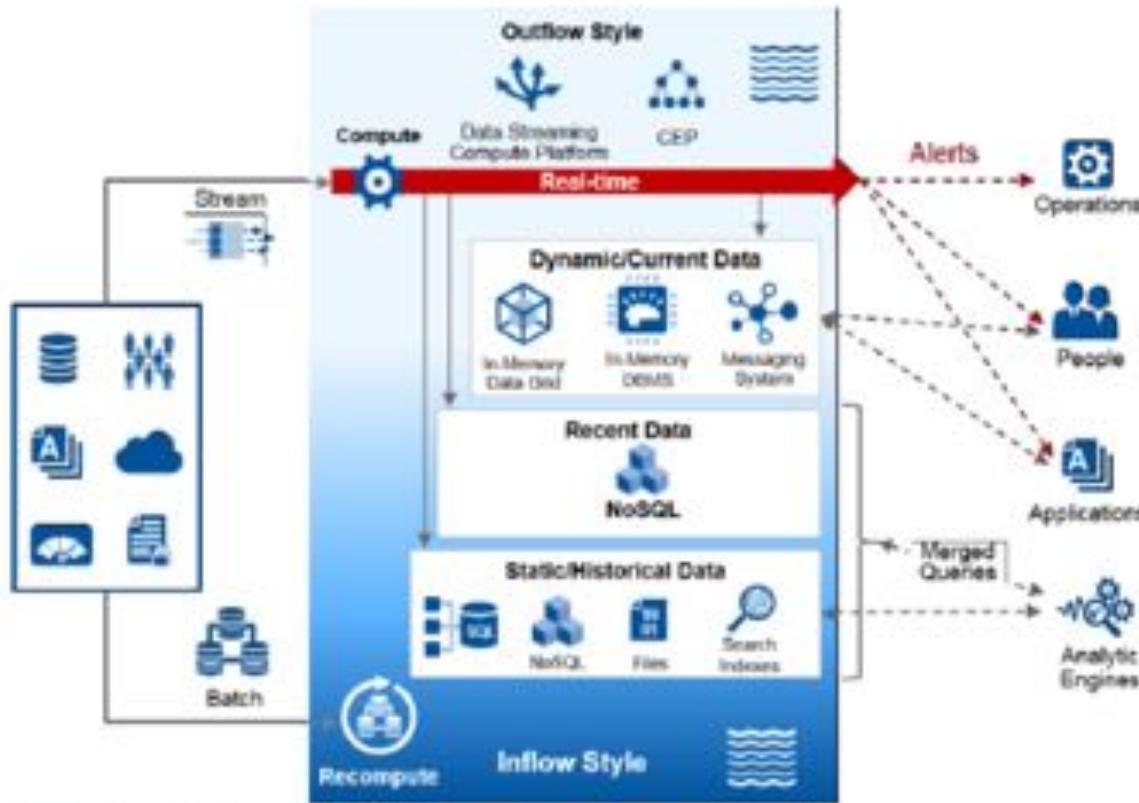
Can I use the rich media to gain insight?



Gartner Data Lake Architecture



Gartner Data Lake Architecture



Source: Gartner (July 2016)

Data Platform

- Data ingestion
- Data preparation
- Data exploration
- Feature engineering
- Model creation and training
- Model testing
- Deployment
- Monitoring
- Maintenance
- Collaboration

“Core product and supporting portfolio of coherently integrated products, components, libraries and frameworks (including proprietary, partner and open source)”

Gartner

Thank You

The Dell Technologies logo is displayed on a solid blue background. The logo consists of the word "DELL" in a bold, white, sans-serif font, with a stylized "D" icon composed of three slanted bars to its left. To the right of "DELL", the word "Technologies" is written in a smaller, white, lowercase, sans-serif font.

DELL Technologies