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The Velocity Of Business Requires In-Memory Computing

June 29, 2015 San Francisco

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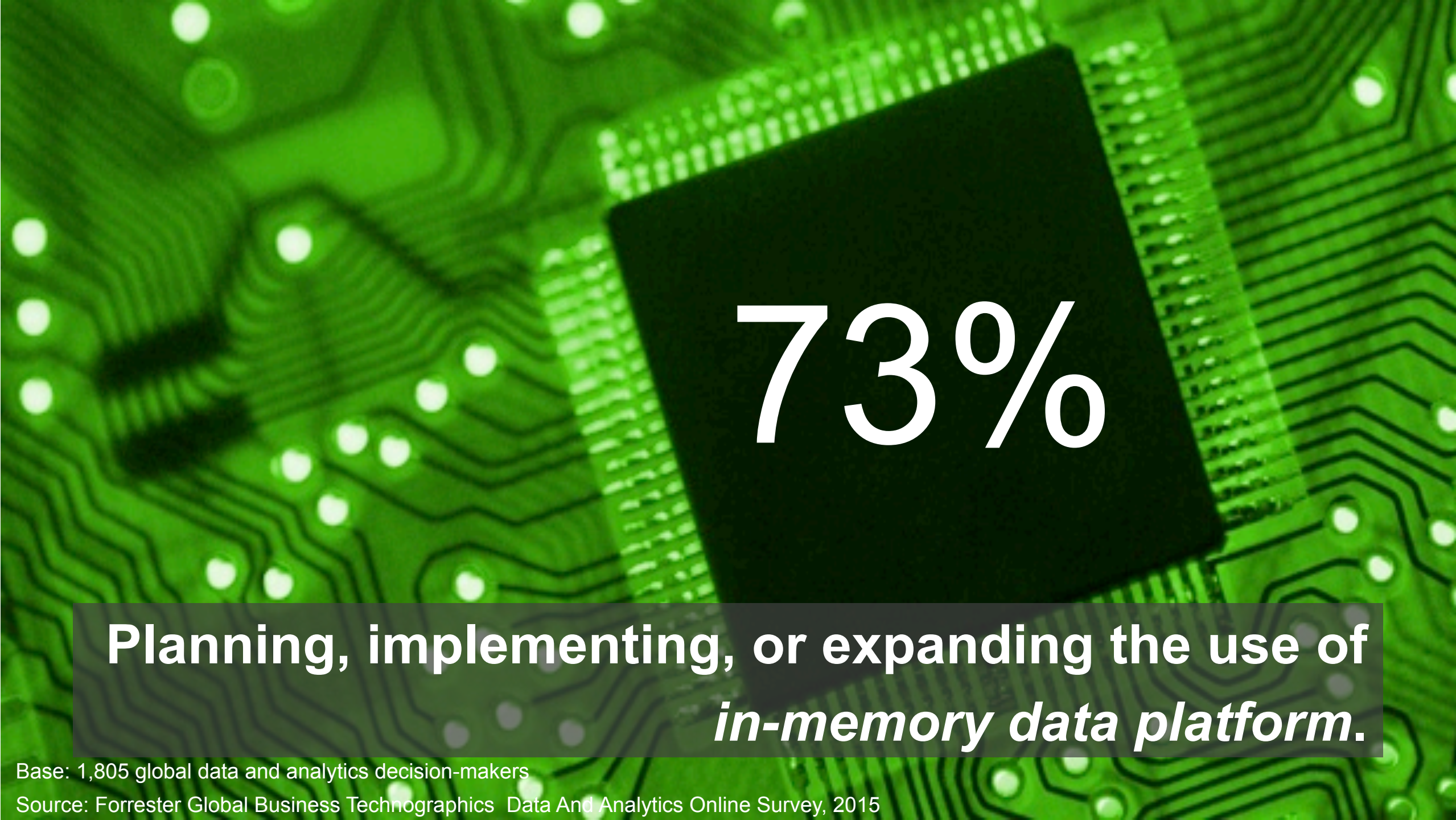
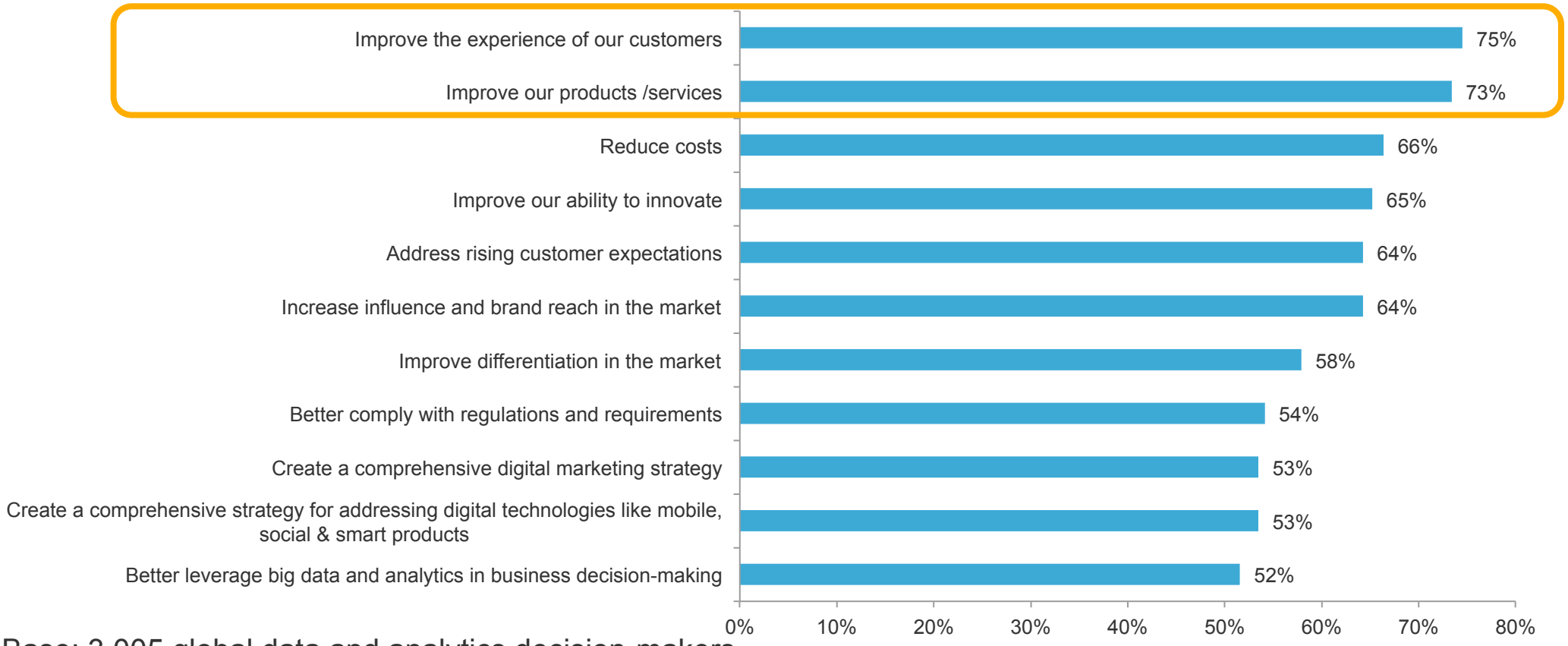


Base: 1,805 global data and analytics decision-makers

Source: Forrester Global Business Technographics Data And Analytics Online Survey, 2015

#Priority

Customer experience is a top business priority over the next 12 months



- Base: 3,005 global data and analytics decision-makers
- Source: Global Business Technographics Data And Analytics Online Survey, 2015

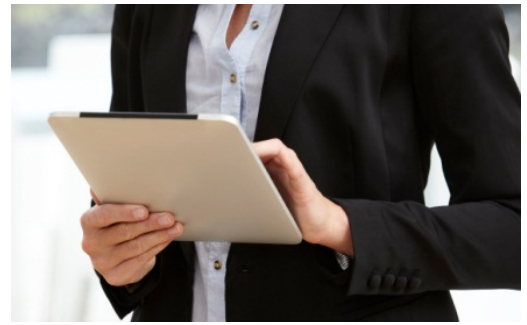
Customer Experience

Personal Relationships

Mass Production

CRM

Hyper-Personal, Real-Time Digital Experiences



For you

For all

For segments

For you

1800

1900

1950

2000

2015

#Celebrity


Customers want and increasingly expect
to be treated like celebrities.

Celebrity experiences must:

- Use analytics to learn customer characteristics and behavior
- Detect real-time context
- Adapt applications to serve an individual customer

Led Zeppelin II 1969

+ Save as Playlist | Share... | Start Radio

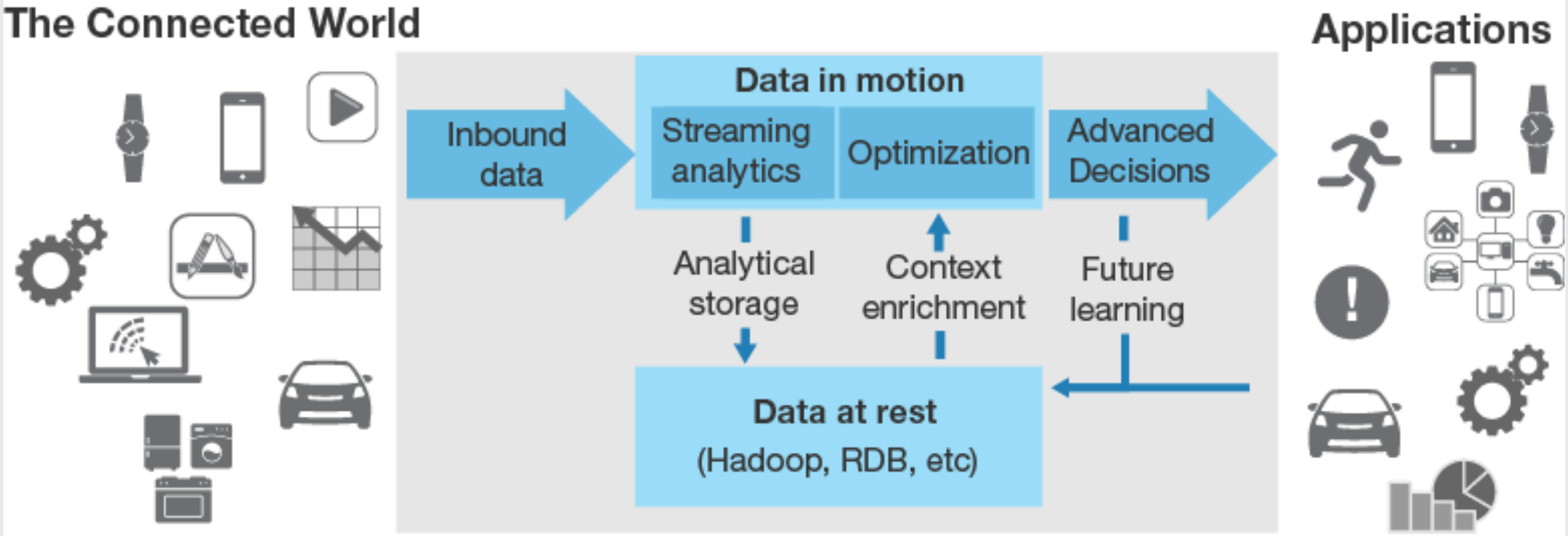
By Led Zeppelin

☆	↗	1	Whole Lotta Love	5:34
☆	↗	2	What Is And What Should Never Be	4:44
☆	↗	3	The Lemon Song	6:20
☆	↗	4	Thank You	4:49
☆	↗	5	Heartbreaker	4:14
☆	↗	6	Living Loving Maid [She's Just A Woman]	2:39
🔊	↗	7	Ramble On	4:23
☆	↗	8	Moby Dick	4:21
☆	↗	9	Bring It On Home	4:20

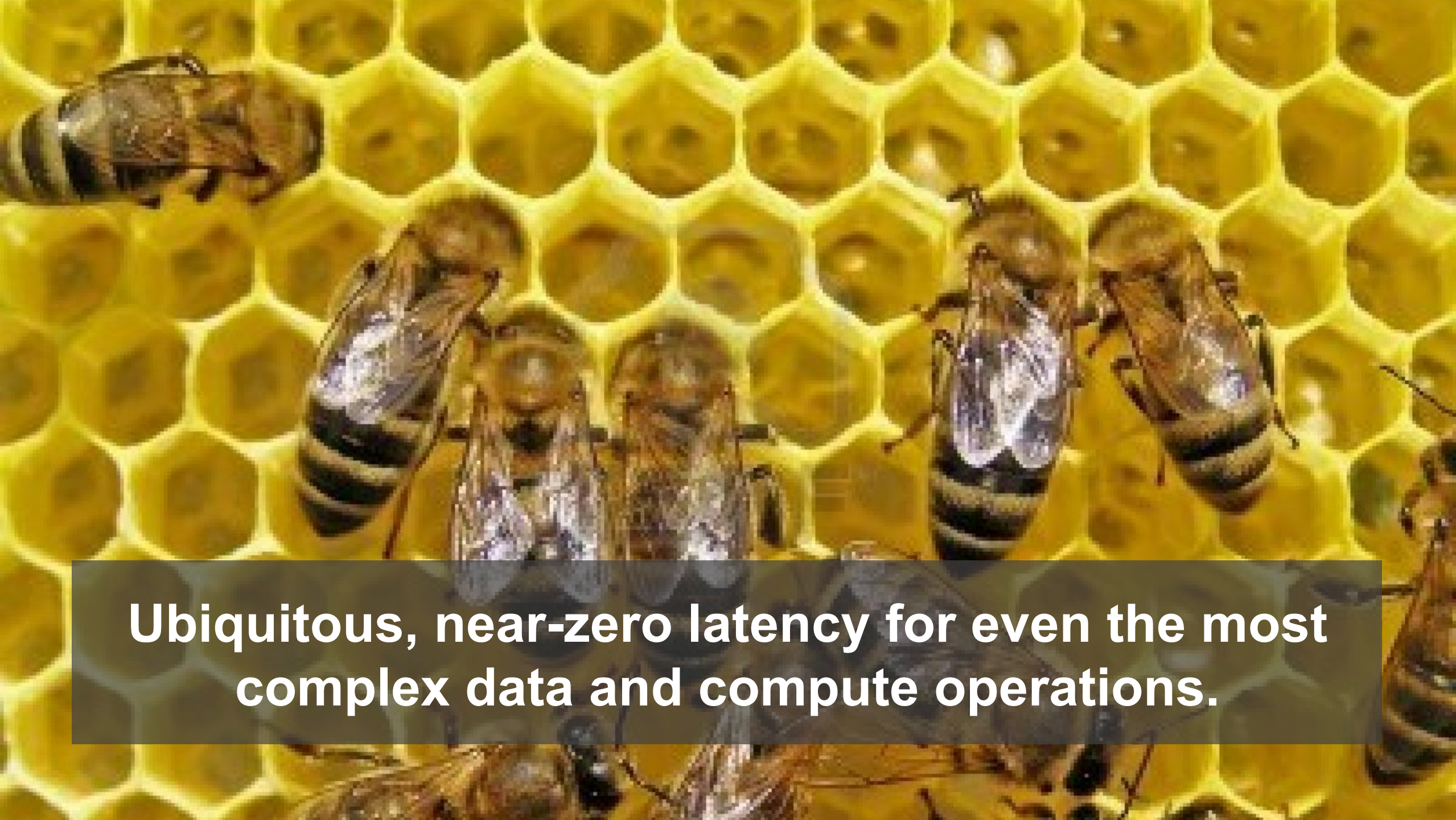
How can Spotify use location and accelerometer data generated by customers' while they listen?

More by Led Zeppelin

Building celebrity experiences requires a real-time architecture.



#In-Memory


Ubiquitous, near-zero latency for even the most complex data and compute operations.

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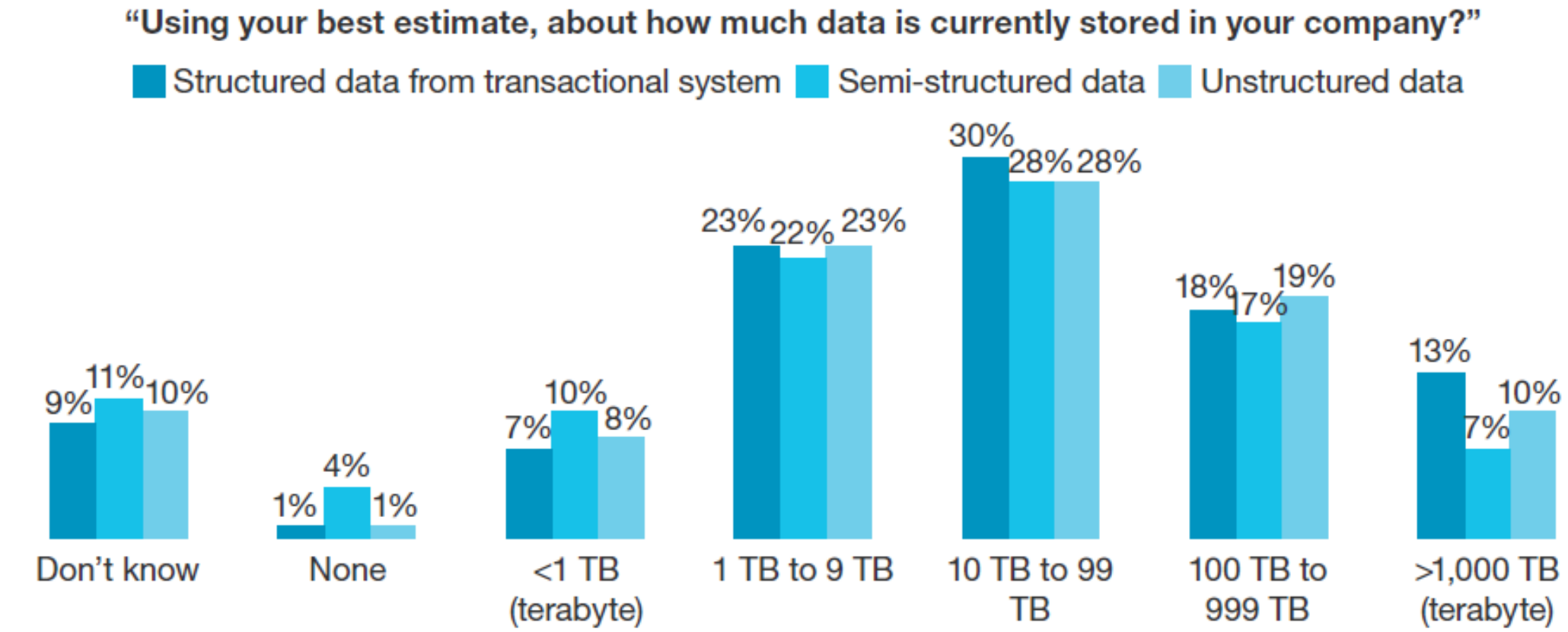
Technologies that are principally architected to use chip-based memory to accelerate the performance of data access and applications; and reduce the complexity of app development.

DEFINITION

Why not just pop your data in-memory?



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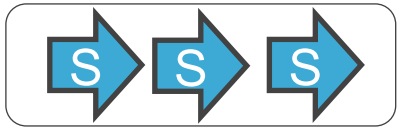
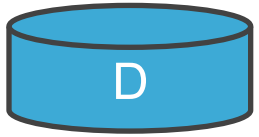
Streaming Analytics



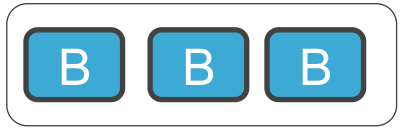
Scale-up Database



Data And Compute Grid

Clustered Database

General-purpose data processing cluster



#FastData

All data starts out fast, but is often only used after it becomes big data at-rest

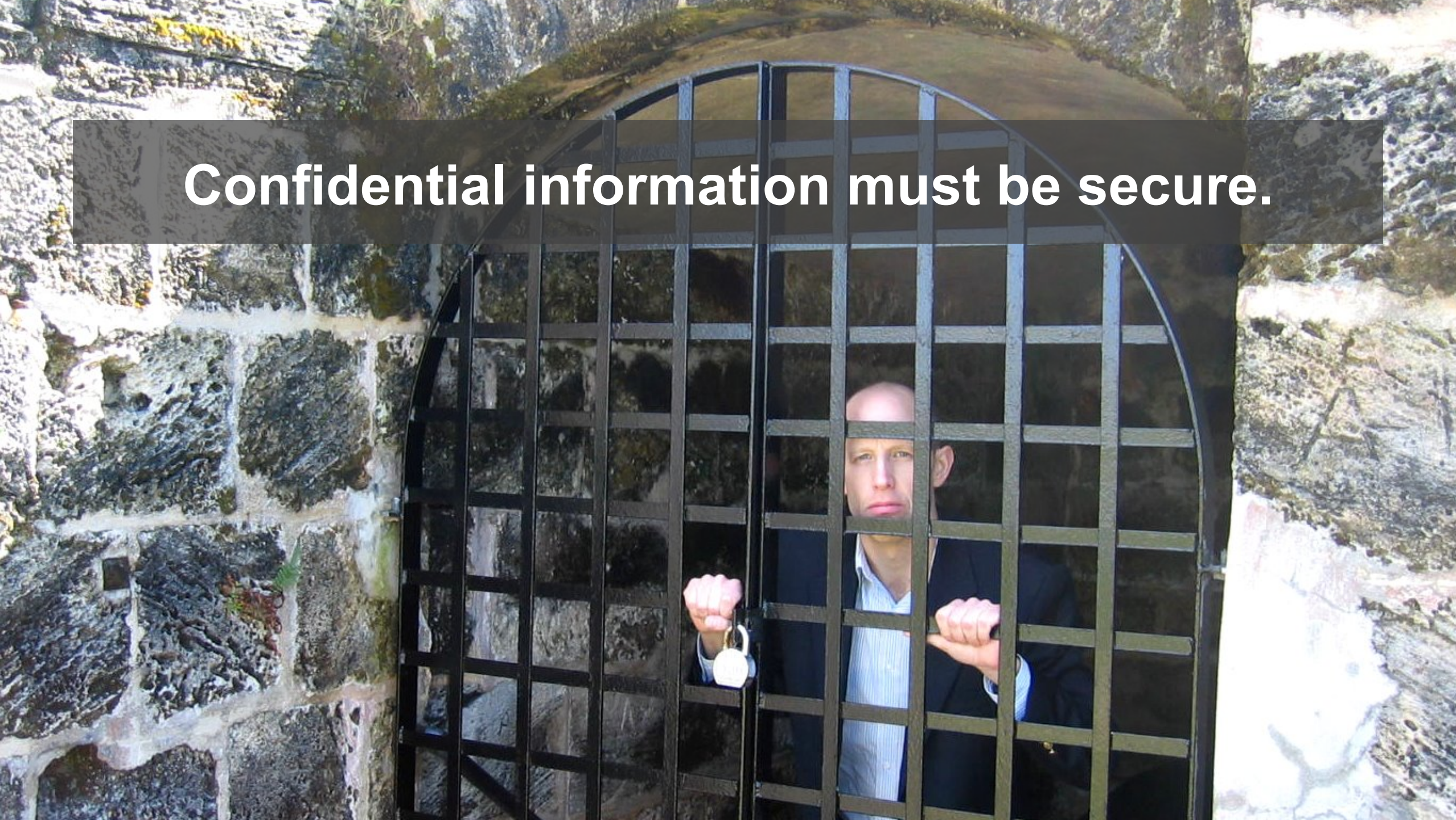
- Rich transactional data from portfolio of dozens or hundreds of business applications
- Usage and behavior data from web and mobile apps
- Social media data
- Sensor and event data from IoT devices
- Data economy – firms buying and selling data


Performance should not limit design decisions.


Scale should not limit design decisions.

The performance vagaries of accessing data silos can be eliminated.


Fault-tolerance is non-negotiable.

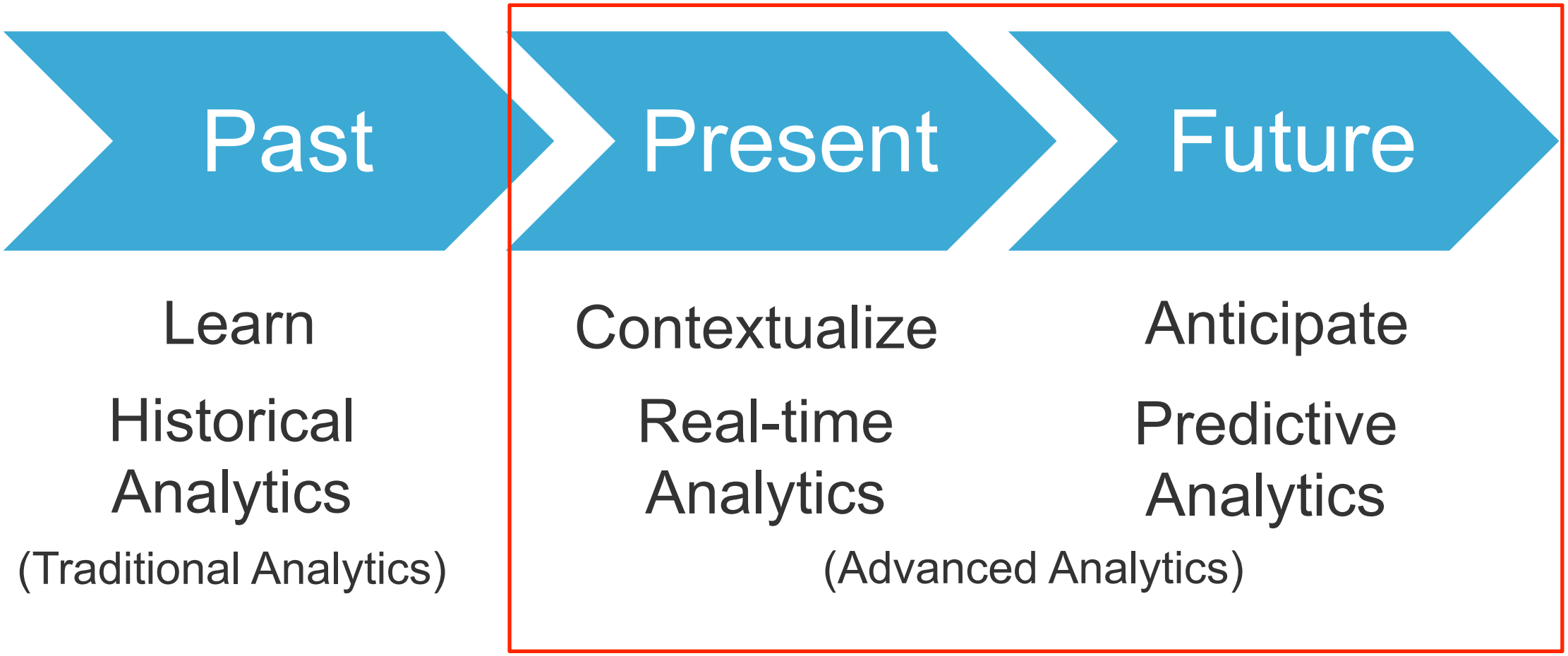

Confidential information must be secure.

In-memory must fit and work seamlessly with existing architectures.

In-Memory technology speeds application development by reducing architectural concerns.

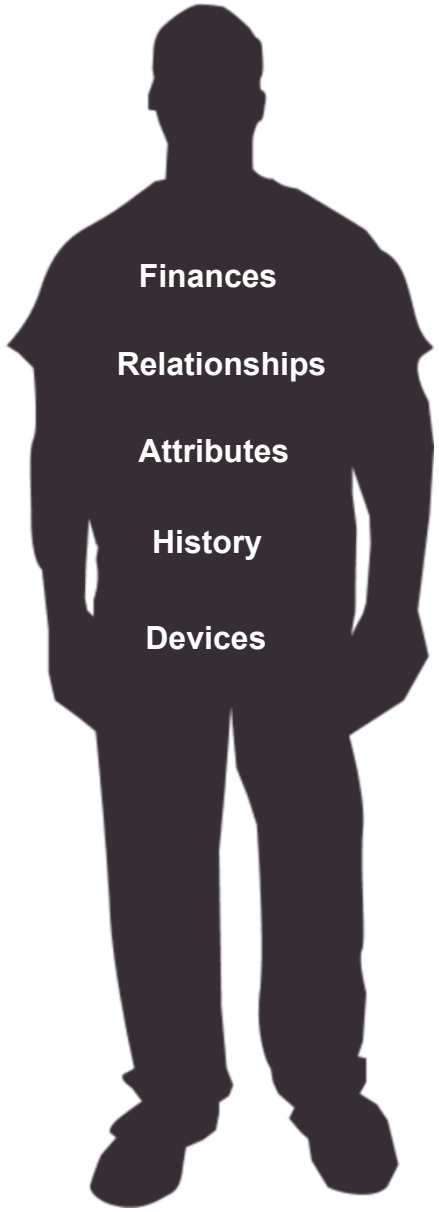
#FastAnalytics

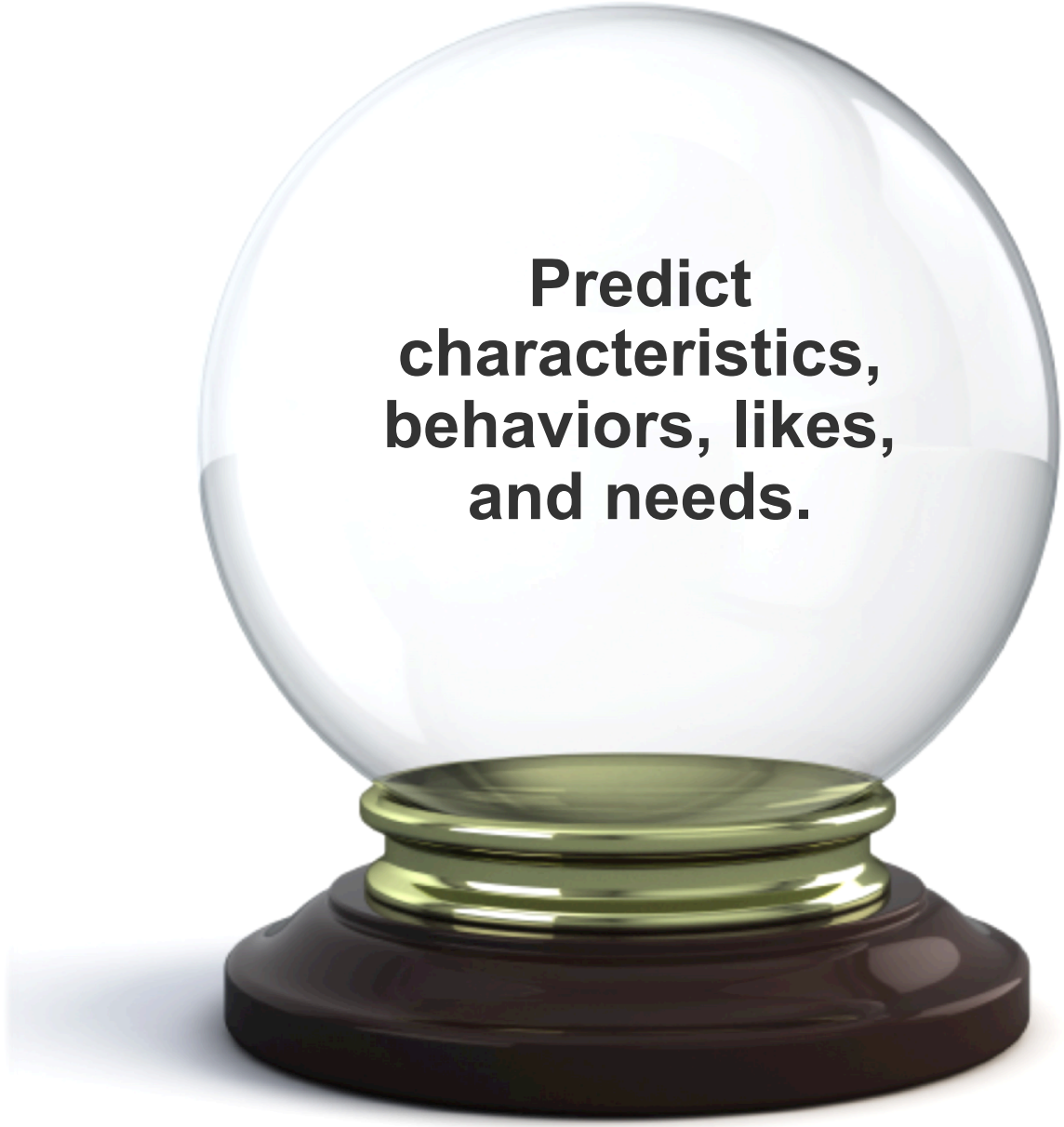
Three kinds of analytics are essential to create predictive apps



#FastPrediction

Customer

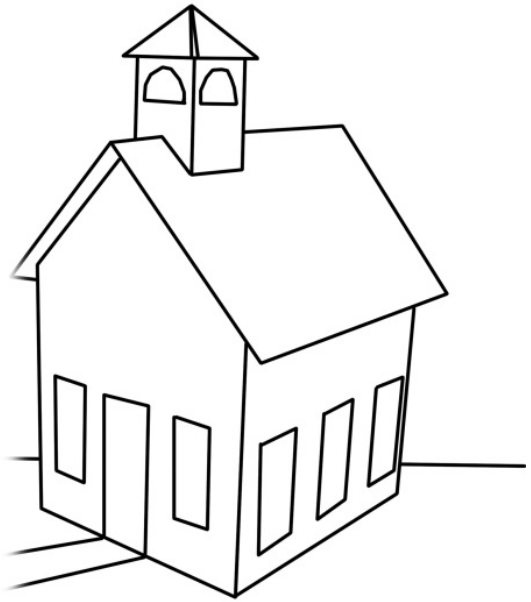

Finances
Relationships
Attributes
History
Devices


Predict characteristics, behaviors, likes, and needs.

Weather

Customer

Location



Time

Channel

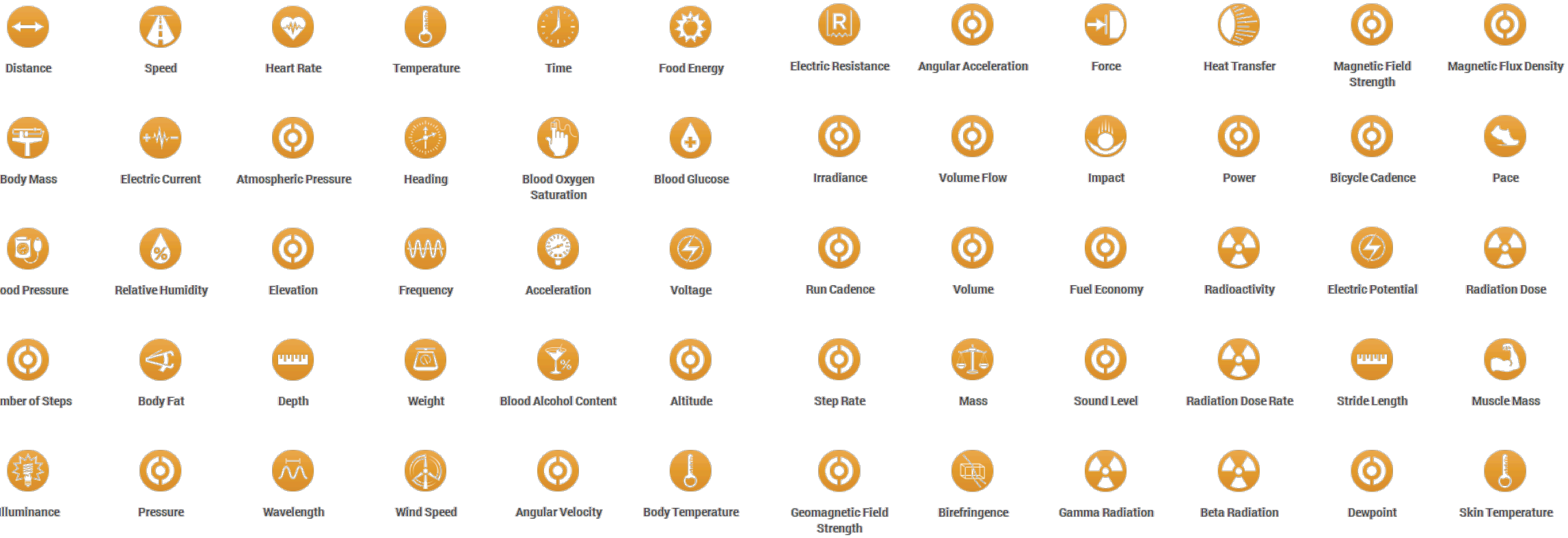
Behavior

Use in-the-moment context to predict next-best-action.

#Sensors

Apps are blind – use sensors to make them see.

If you can measure it, then you can use it.



Sensor taxonomy

	Definition	Examples
Biological	Biological sensors measure the states of living organisms, including body temperature, skin conductivity, brain activity, and blood pressure.	Nike's Fitbit, Scanadu's Scout, Mimo onesie, and NTT DOCOMO's Gyuonkei
Machine	Machine sensors measure the workings and conditions of human-made objects, including oil temperatures, engine vibrations, and component integrity.	GE's ANSI smart meters, the train and track contact sensor in the Hong Kong-China railway, and Progressive Casualty Insurance's Snapshot
Environmental	Environmental sensors measure the state of the world around us: temperature, air pressure, humidity, soil quality, water toxicity, and more.	Salinometers, mass spectrometers, and seismometers

Local or remote

Access modes	Definition
Local access	• Sensors which are contained within the same device as the application making use of them, where the data does not need to be transmitted over an external server or network • Example: A smartphone's accelerometer, GPS receiver, camera, and microphone are all direct access sensors
Remote access	• Freestanding or bundled groups of sensors where the data must be transmitted over a network to the software that will make use of it • Example: A Nest Labs thermostat or a Dropcam digital camera which are interfaced with through cloud services

Fantasy becomes reality at Universal's Wizarding World with RFID sensor packed wands.

#Location

Location means latitude, longitude, and altitude.


Velocity represents speed and direction.


Orientation is the position relative to normal.

Location can have more value when augmented with both real-time and referential contextual information.

Referential Context (examples)

- Address
- Business name
- Event
- Road
- Sale
- Weather forecast

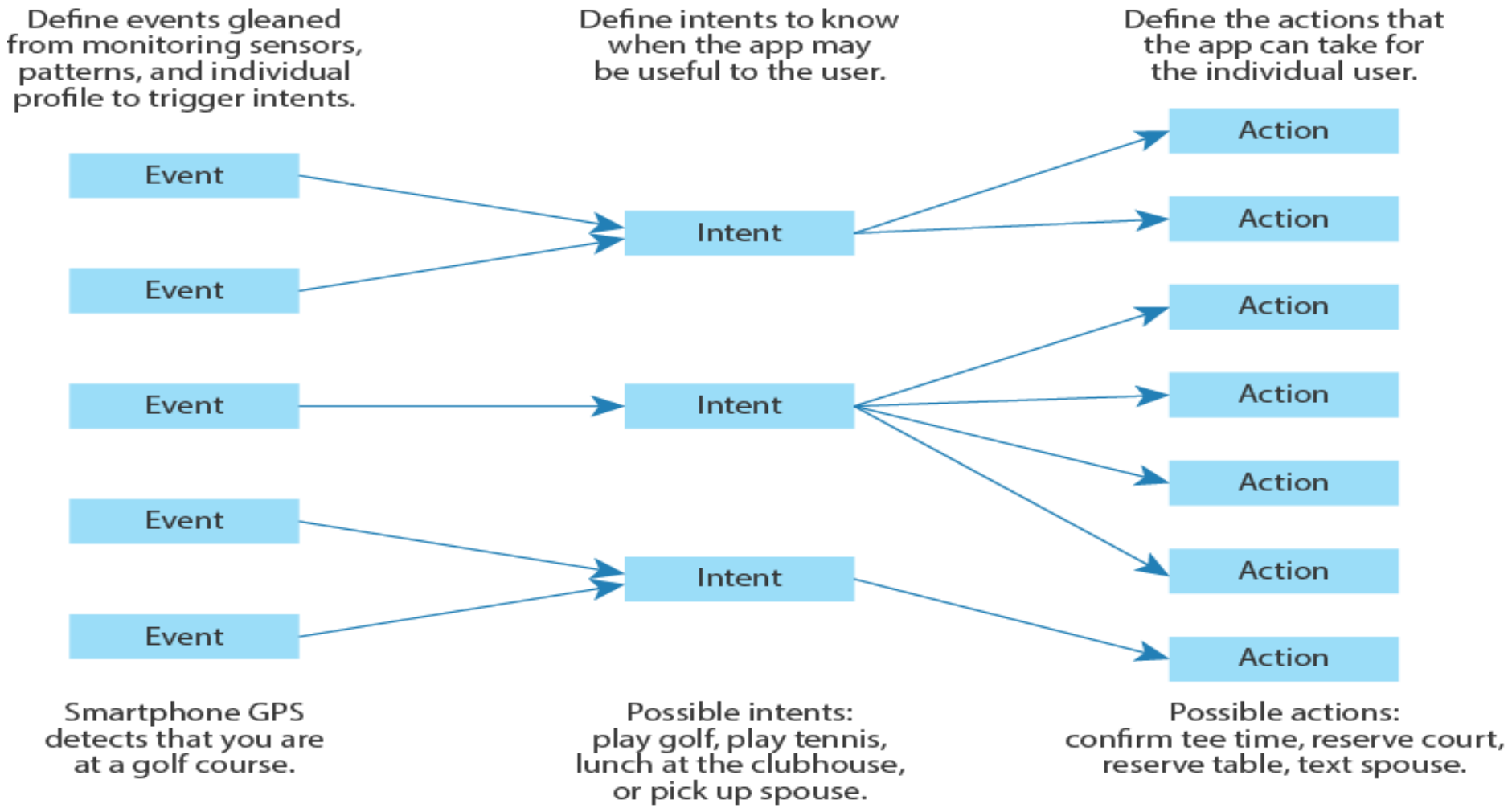
Real-time Context (examples)

- Time
- Relative humidity
- Heart rate
- Pressure
- Sound level
- Brightness


What if you knew your customers were “show-rooming” when they walked through your store?

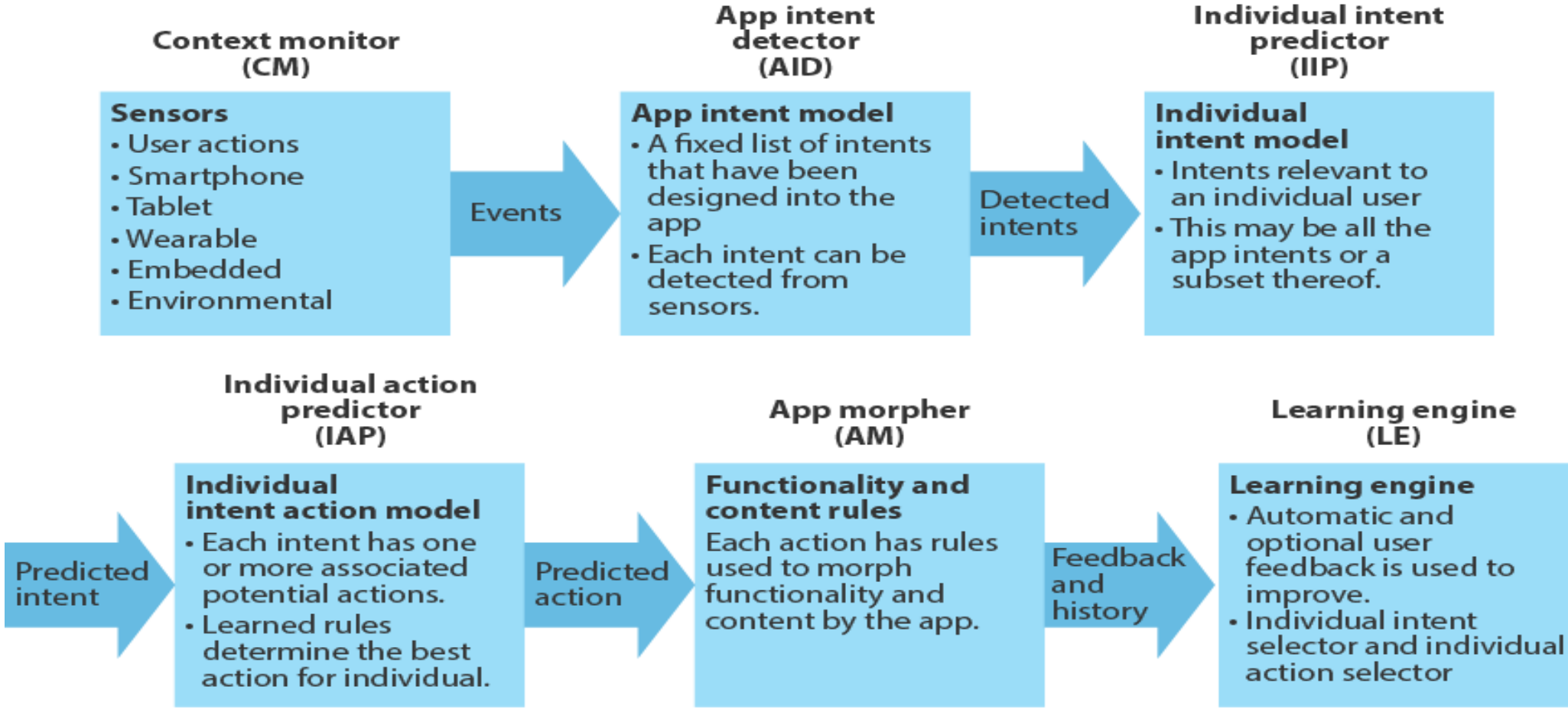
#FastApps

Design apps that are always aware.



Source: Forrester report “Predictive Apps Are The Next Big Thing In Customer Engagement”

You must use in-memory platforms to detect, predict, and act in real-time.



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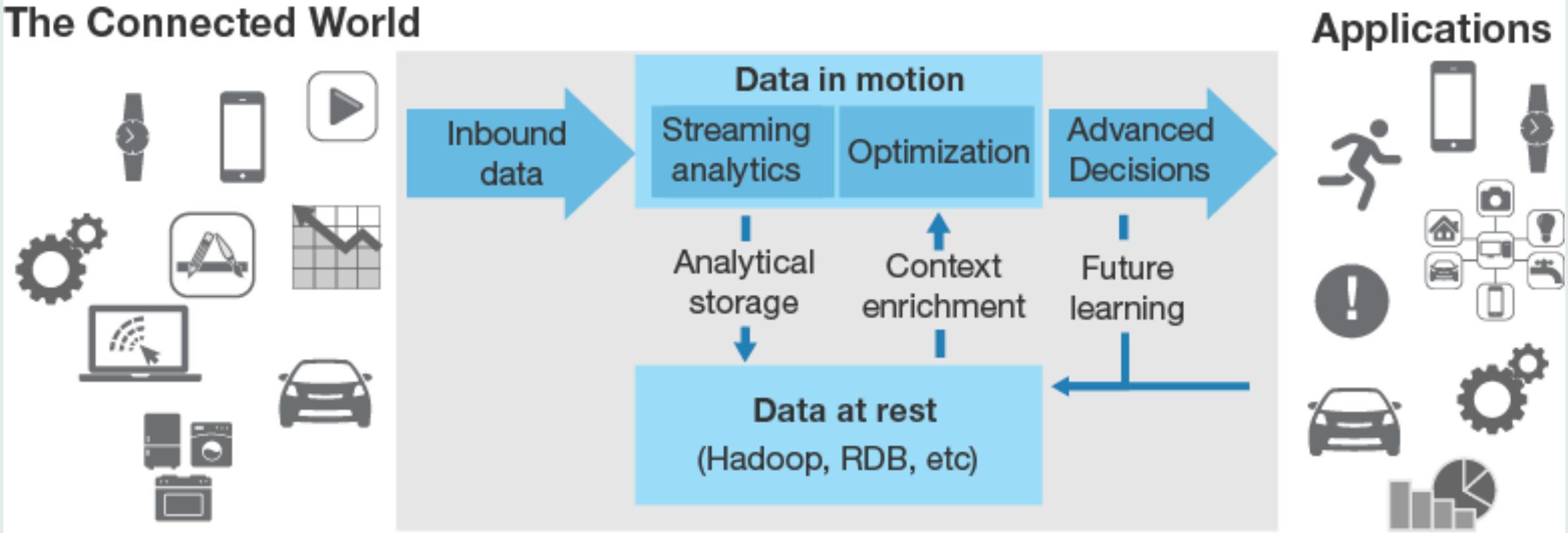
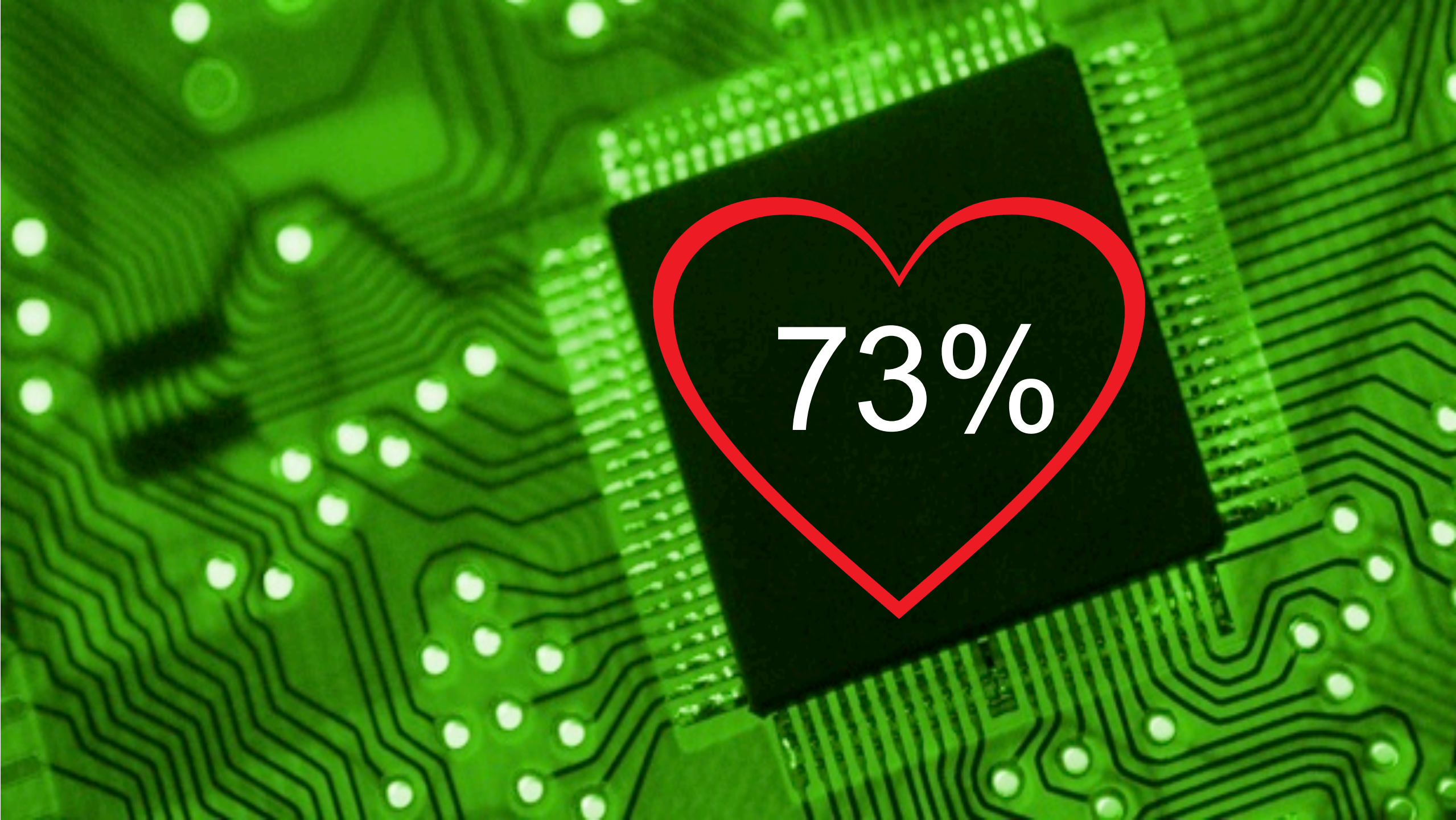
In-memory technology is the industrial-strength, real-time glue that makes it all work together.



#Priority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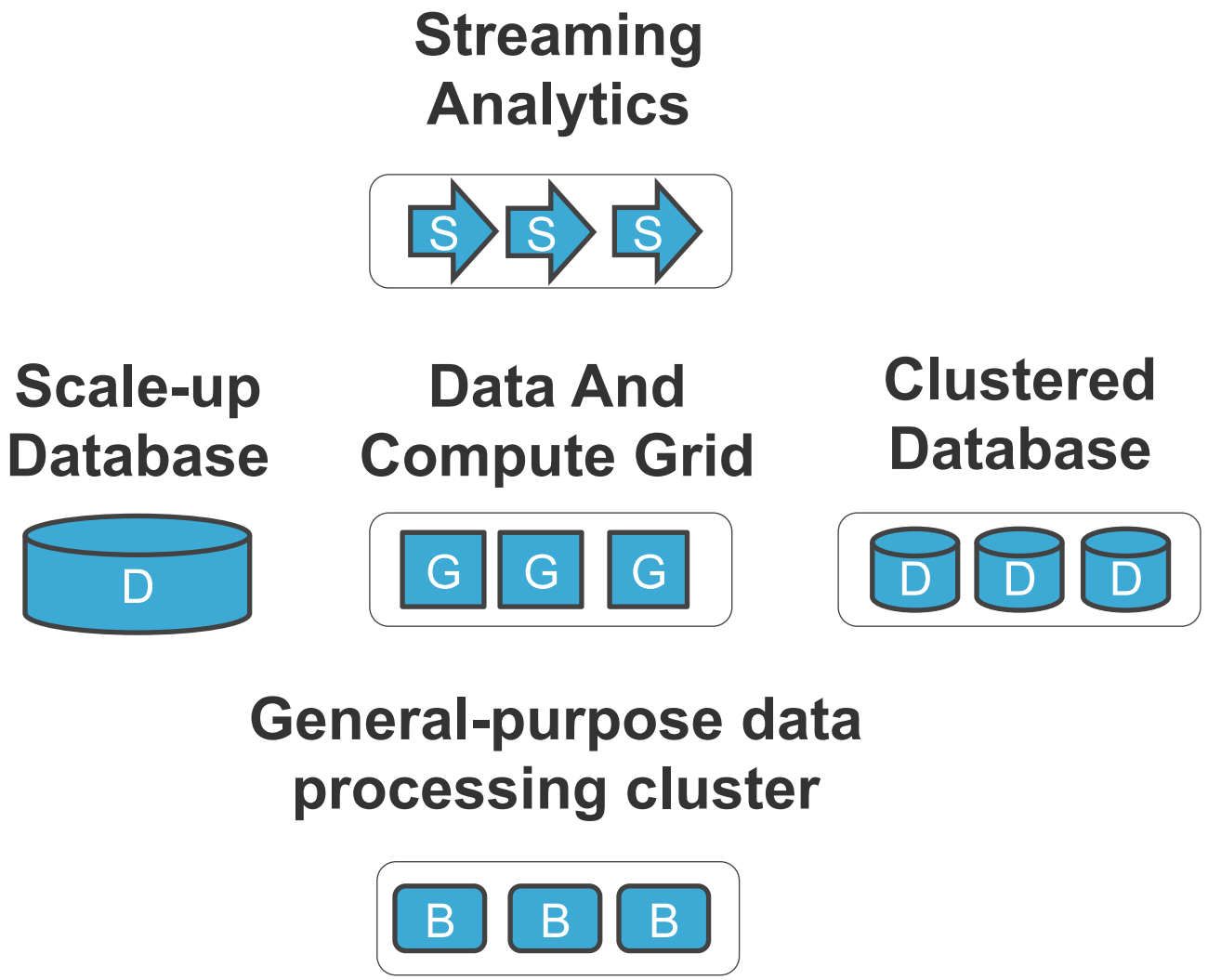
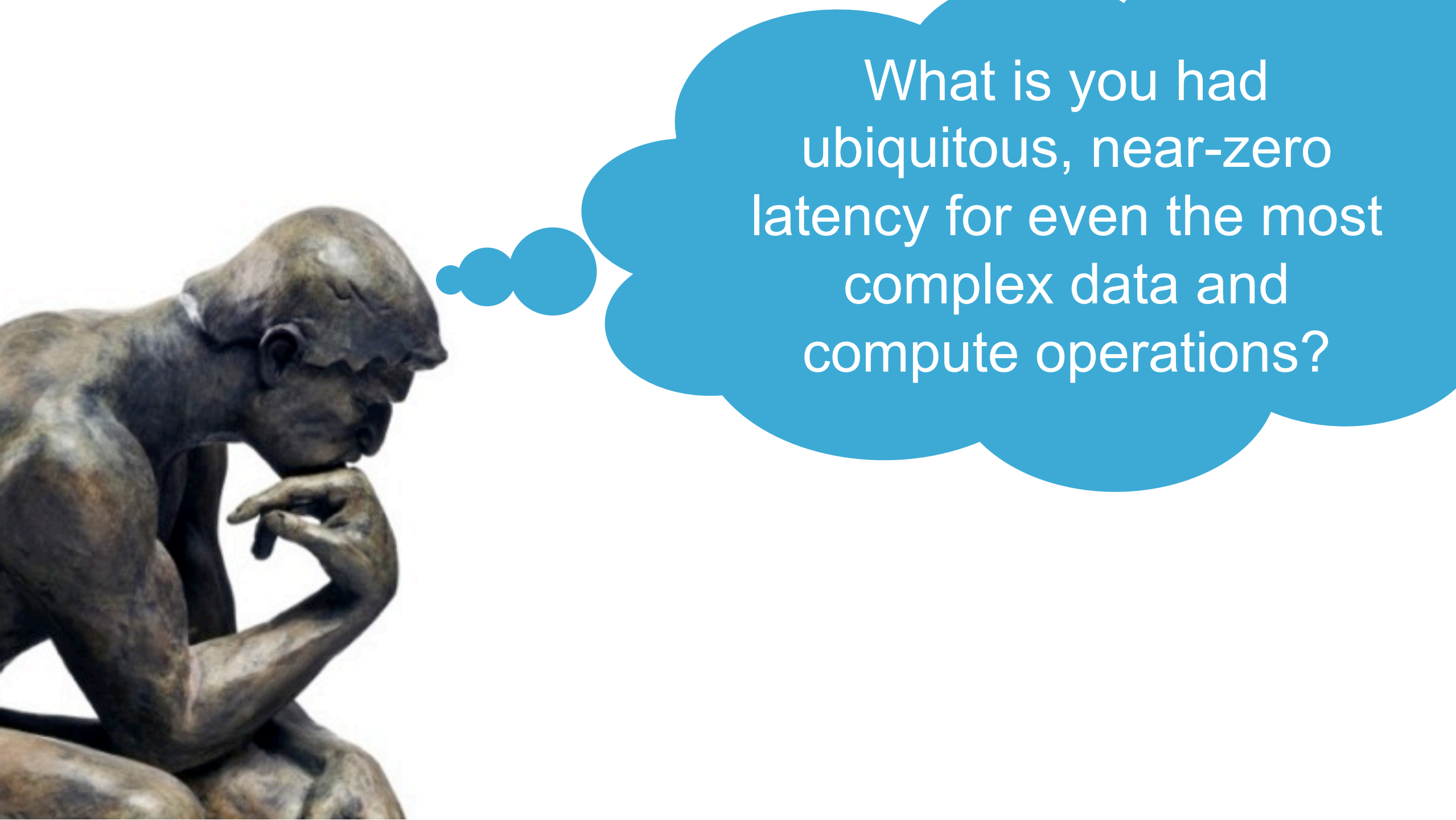


#Opportunity


What is you had ubiquitous, near-zero latency for even the most complex data and compute operations?

What if you had ubiquitous, near-zero latency for even the most complex data and compute operations?

1. Walk through critical or challenging business processes

    - At each step of the business process ask how in-memory could improve the process

2. Walk through customer journey to improve digital experience design

    - At each step of the customer journey, ask how in-memory could help create a dazzling, new customer experience.

Thank you

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