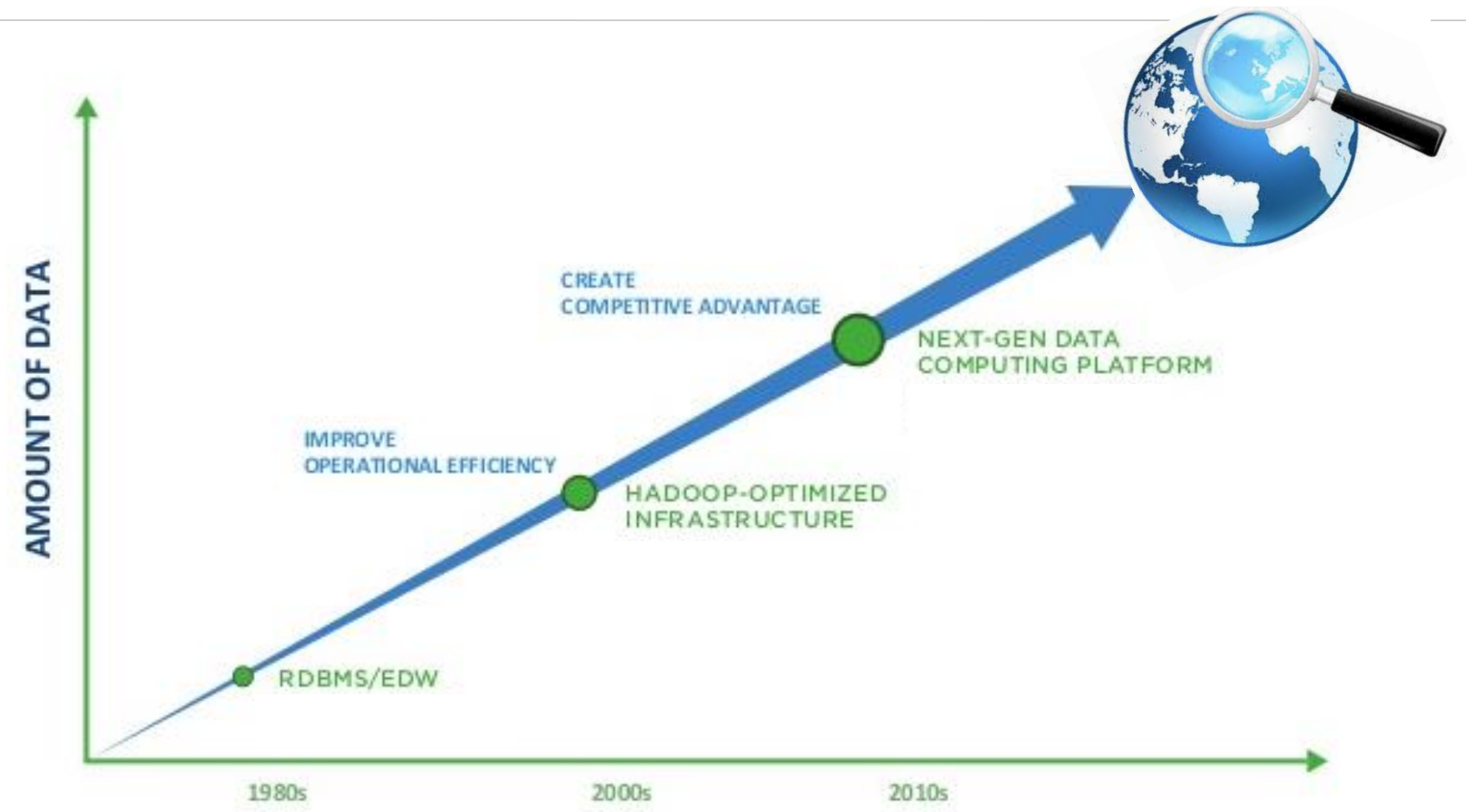
Big Data Fuels IT Architecture Evolution

@EvaAndreasson, Cloudera

Data Re-Thinking Drivers

Where we are Heading…



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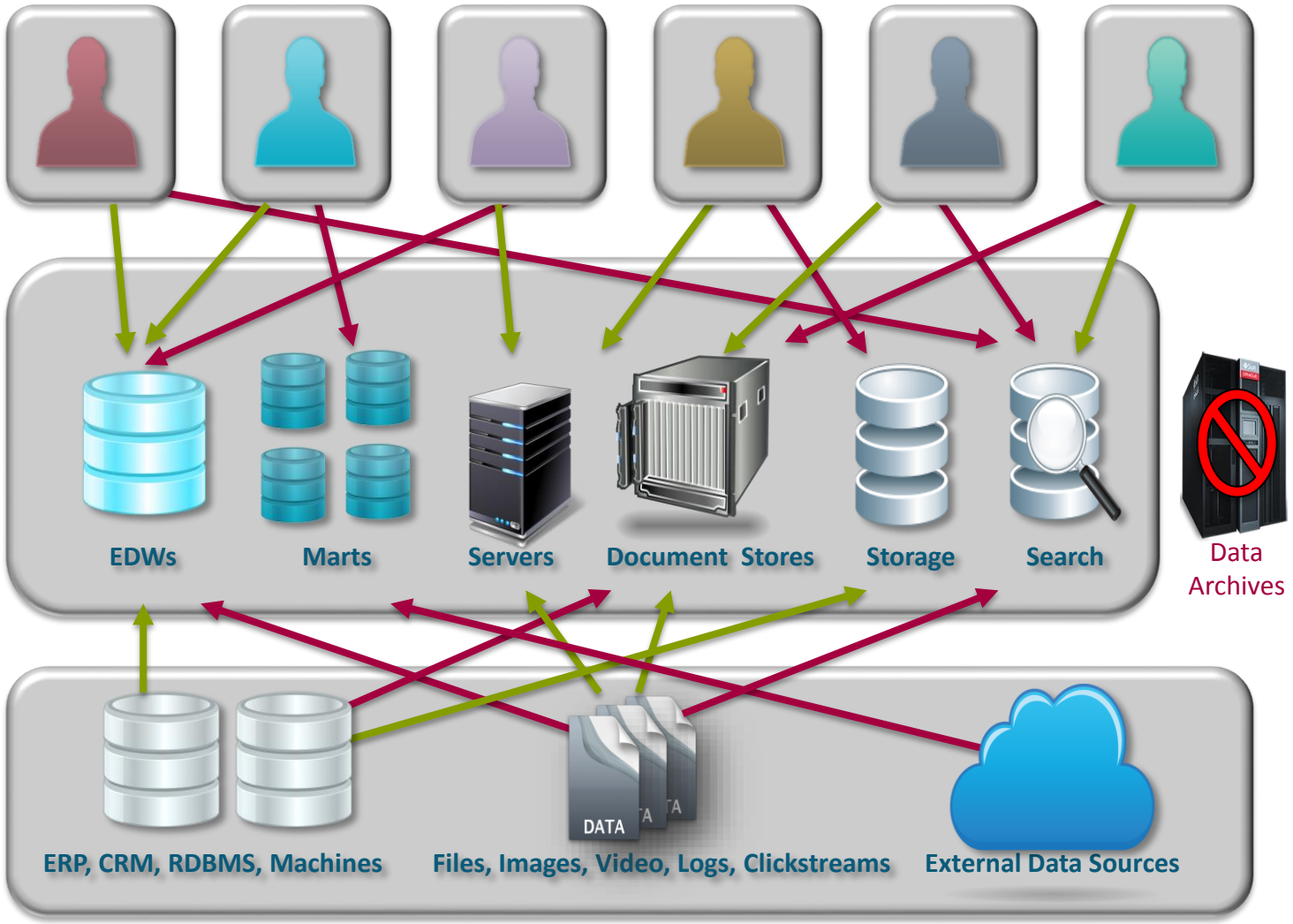
Thousands of Employees & Lots of Inaccessible Information

Heterogeneous Legacy IT Infrastructure

Silos of Multi-Structured Data Difficult to Integrate



New Category: The Enterprise Data Hub (EDH)

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Unified Data Management Infrastructure

Ingest All Data
Any Type
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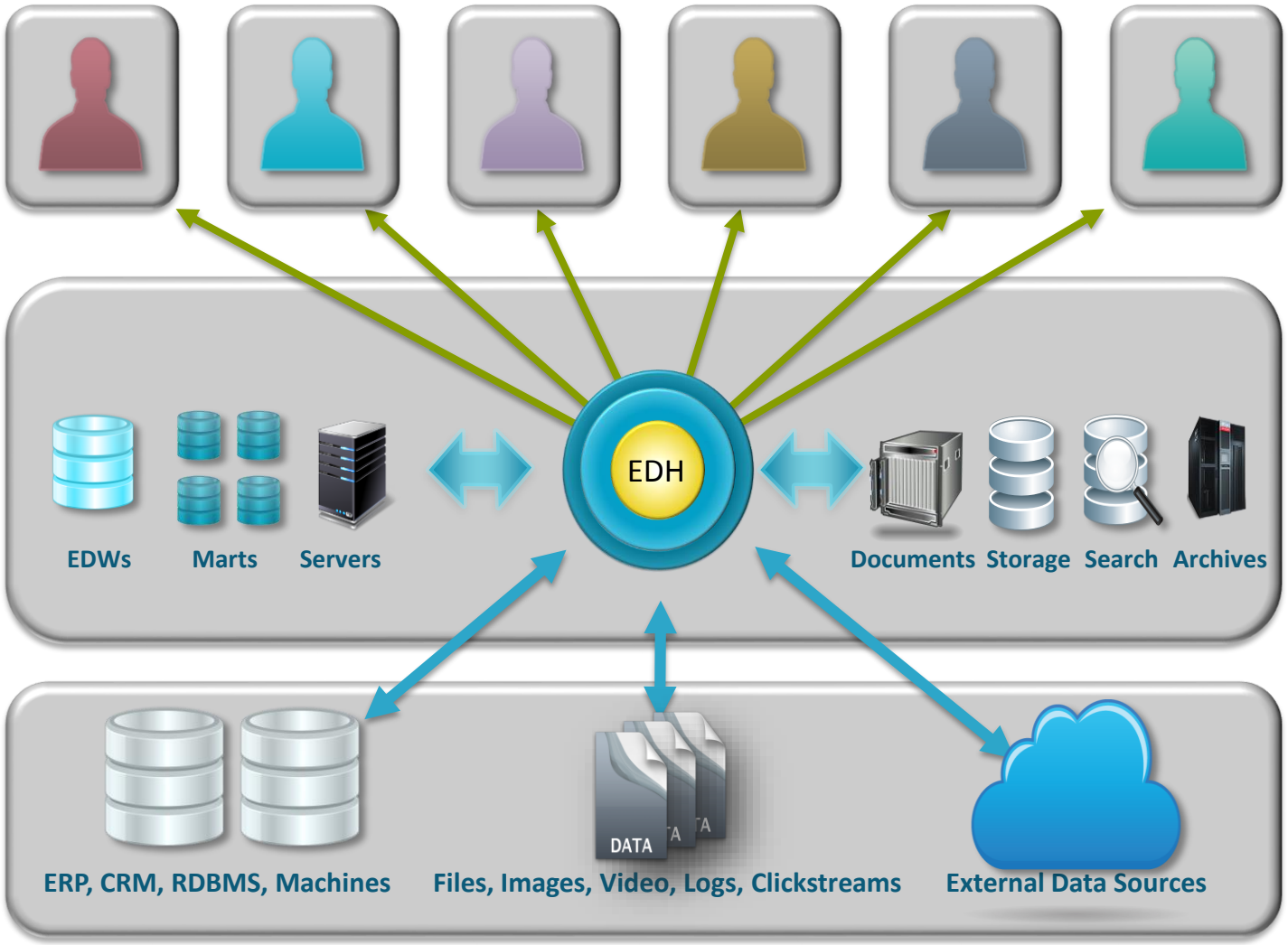
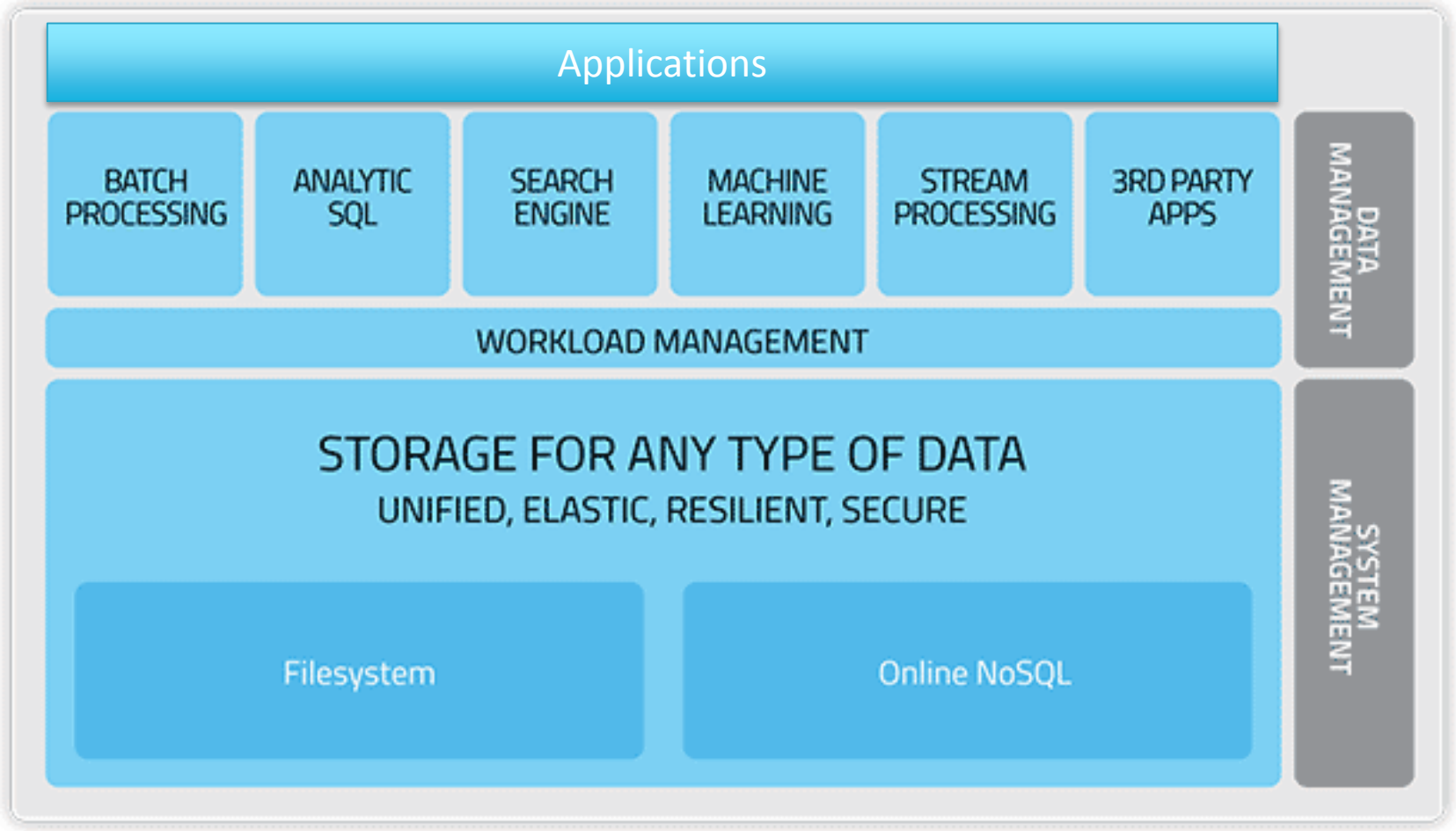
From Any Source



Hadoop et al Enabling an EDH



From the Monolith to Micro-Services

Randy Shoup
@randyshoup
linkedin.com/in/randyshoup

The Monolithic Architecture

- Single, vertically-integrated unit
- "The System"

The Monolithic Architecture

Pros

- Simple at first
- In-process latencies
- Single codebase, deploy unit
- Resource-efficient at small scale

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- Coordination overhead as team grows
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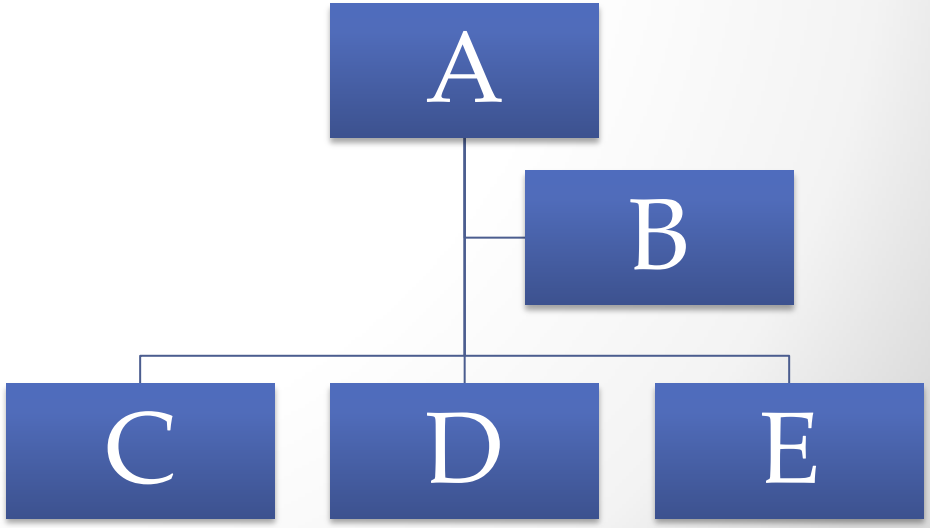
- Simple, well-defined interface
- Modular and independent
- More graph of relationships than tiers
- Fullest expression of modularity and encapsulation



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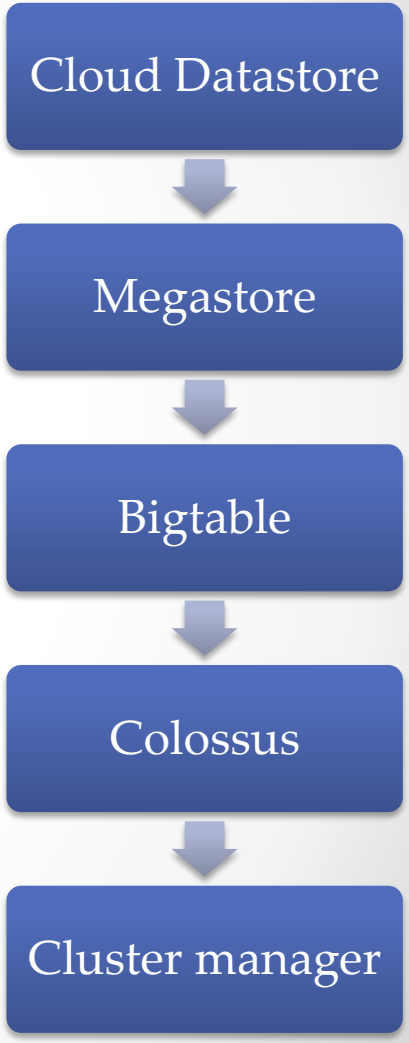

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Why Enterprises are Embracing the Cloud

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Embracing the Cloud (The Obvious)

- Provisioning Speed
  - Minutes, not weeks
  - Autoscaling in response to load
- Near-Infinite Capacity
  - No need to predict and plan for growth
  - No need to defensively overprovision
- Pay For What You Use
  - No "utilization risk" from owning / renting
  - If it's not in use, spin it down

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- Instance Optimization Opportunities
  - Instance shapes to fit most parts of the solution space (compute-intensive, IO-intensive, etc.)
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  - Amazon and Google know how to run data centers
  - Battle-tested and highly automated
  - World-class networking, both cluster fabric and external peering
- Unstoppable Economics
  - Almost impossible to beat Google / Amazon buying power or operating efficiencies
  - 2010s in computing are like 1910s in electric power

"Soon it will be just as common to run your own data center as it is to run your own electric power generation"

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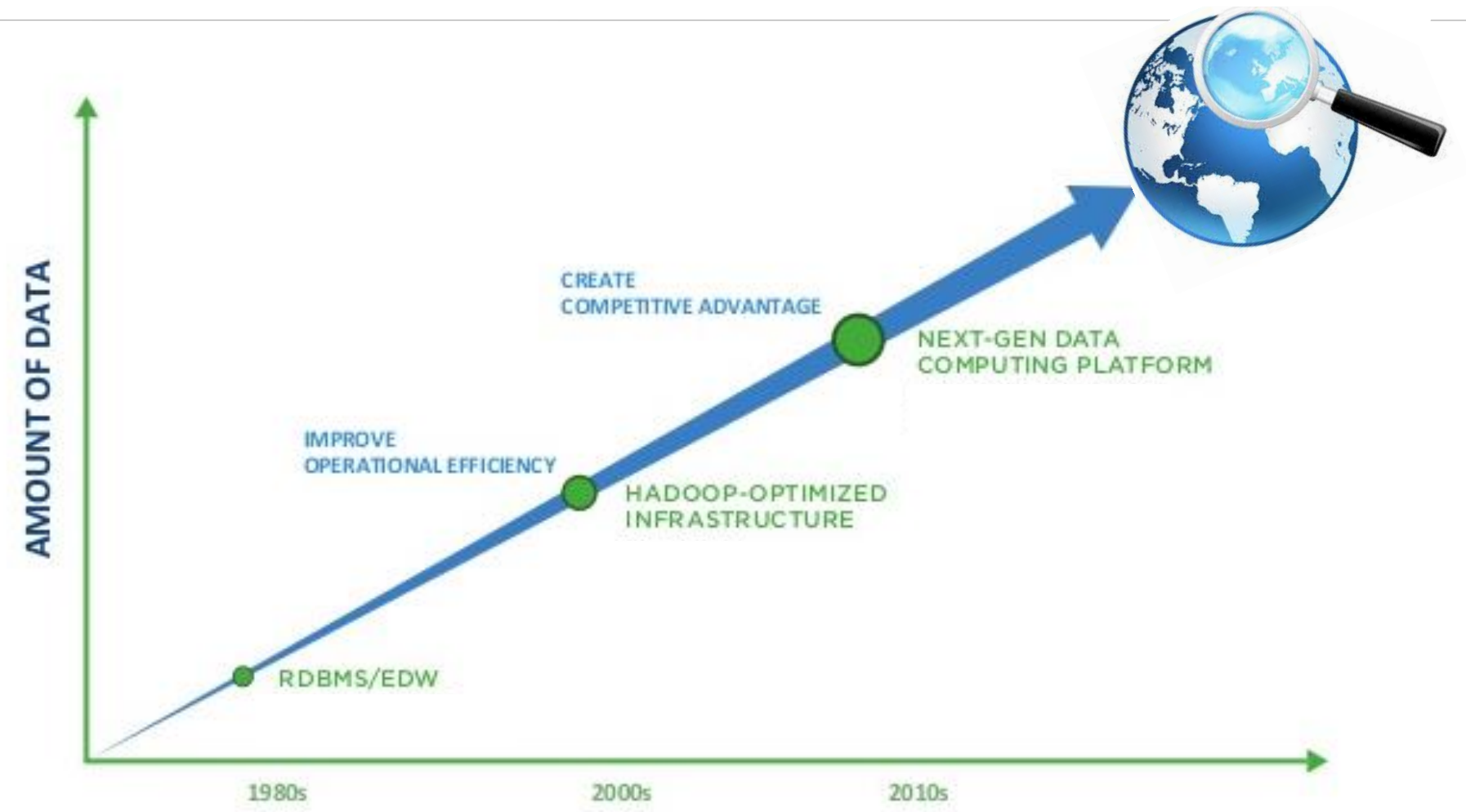

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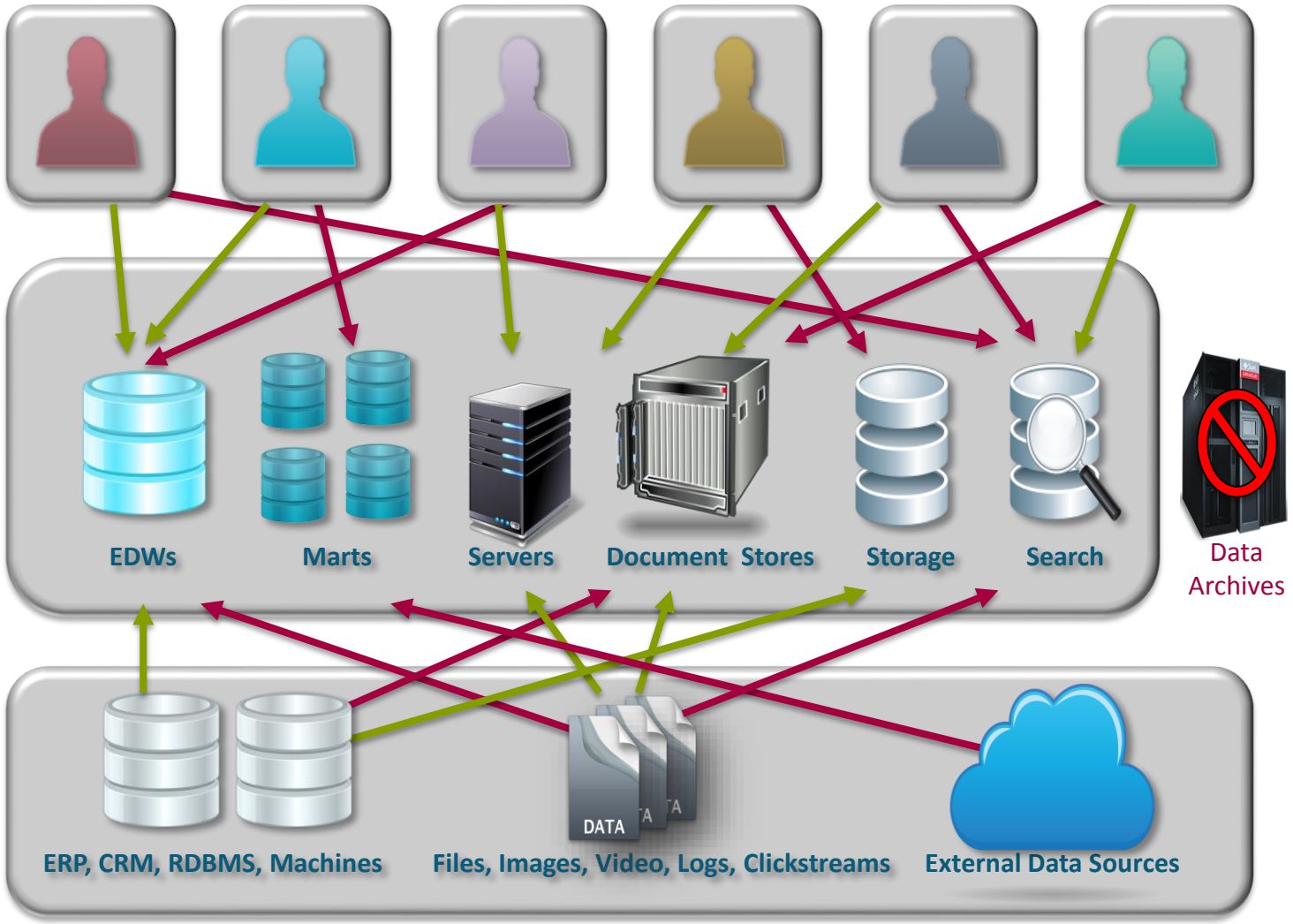

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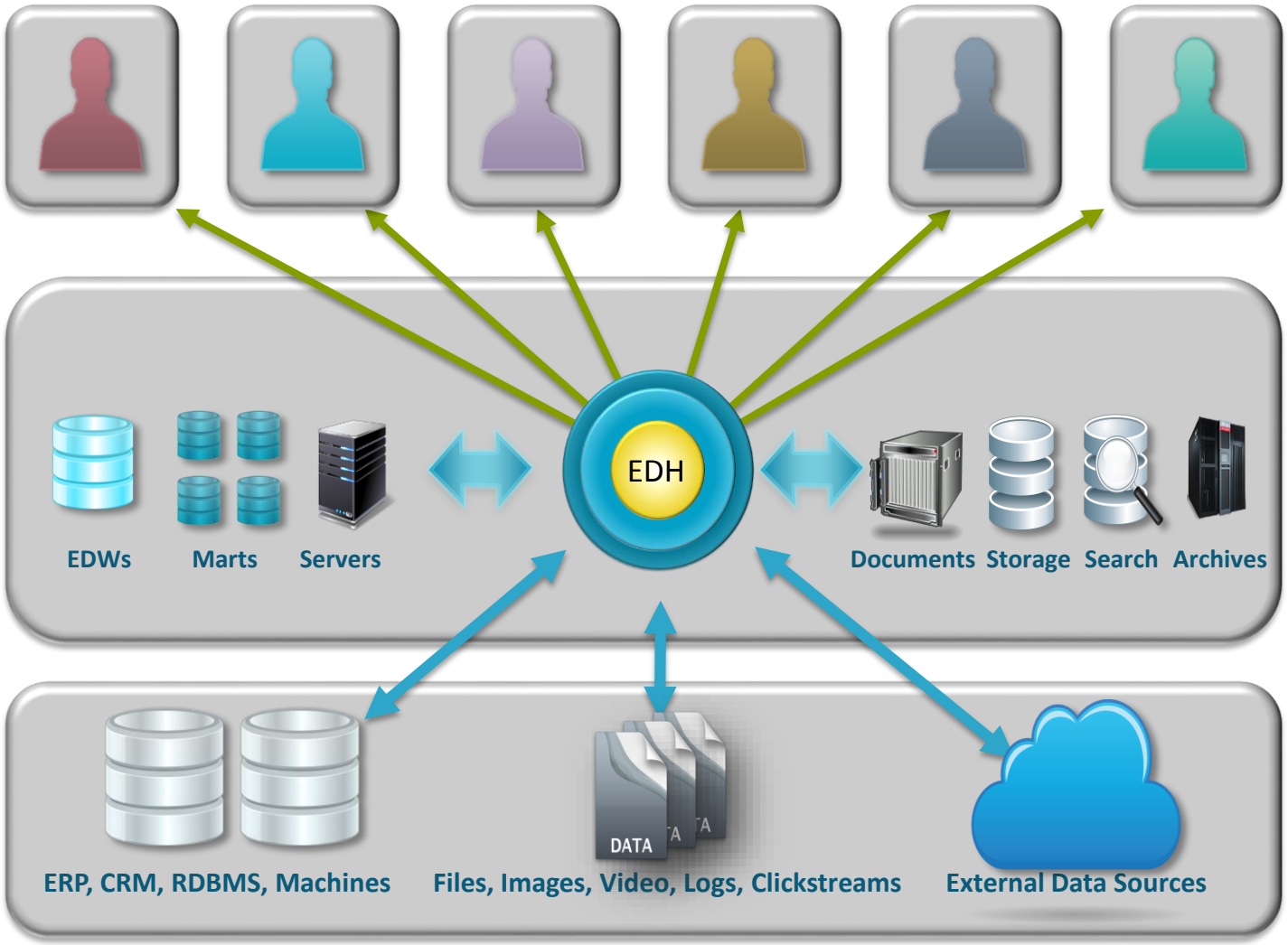

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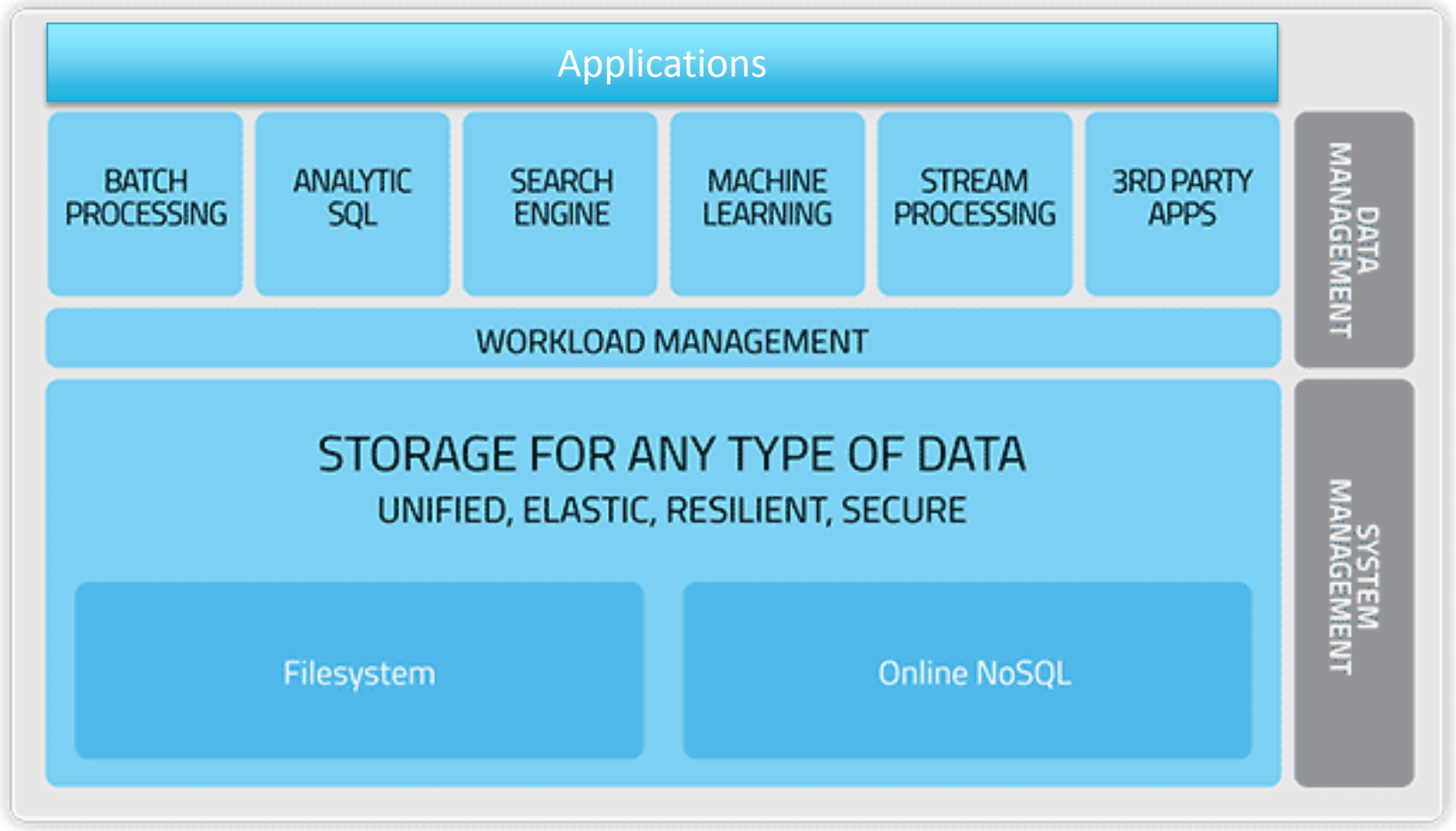

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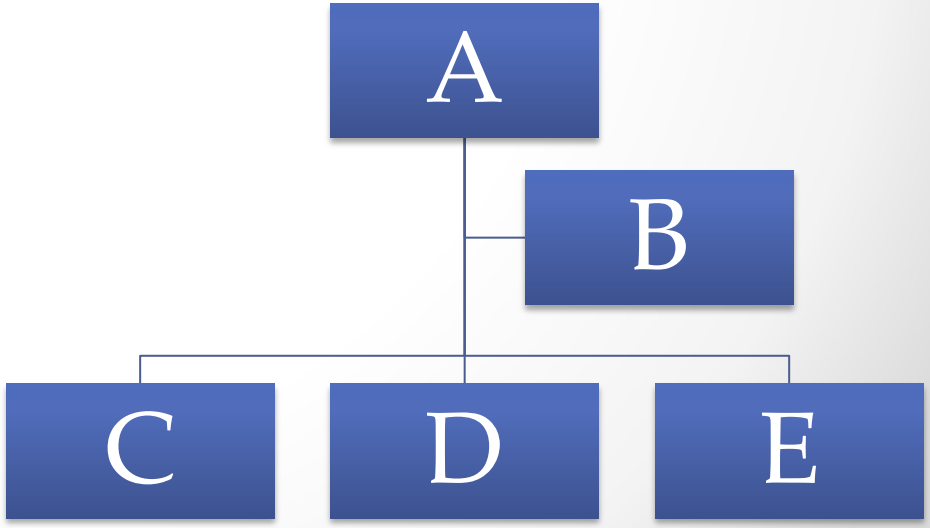

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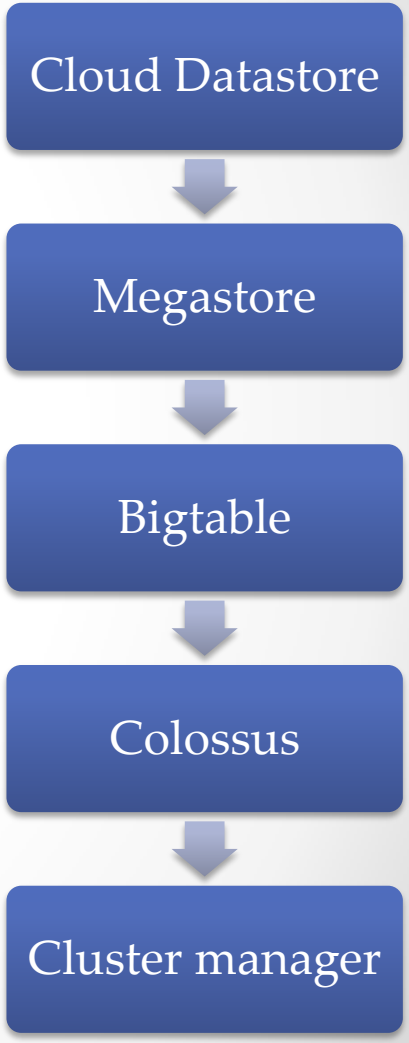

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