

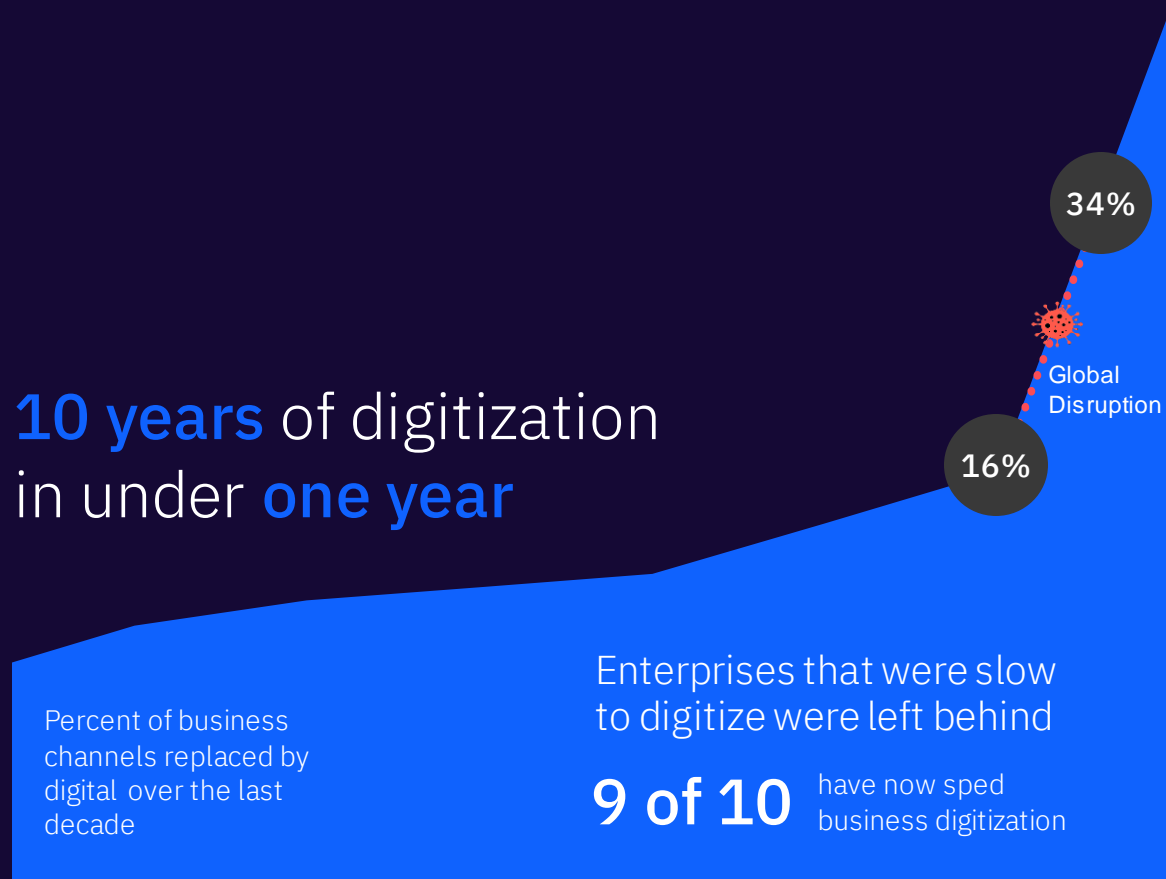
# Unlocking Value with Hybrid Cloud

**Nikos Maniatis**  
April 2022



# Transformation turns to reinvention

## 10 years of digitization in under one year

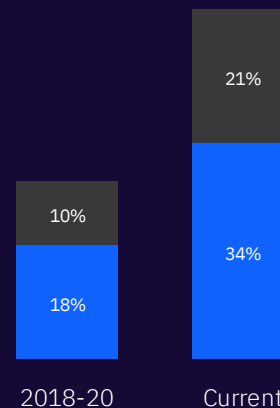


**9 of 10** have now sped business digitization

By 2026, half of revenue will come from products, services and businesses that do not exist today

Top priority

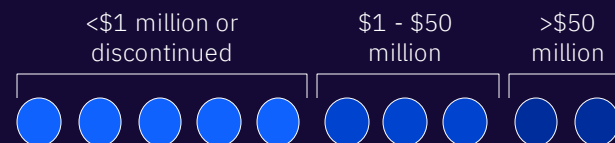
Top 3 priority



## 6 in 10

rank new business building as a top priority – doubling since the global disruption\*

Digital businesses are viewed as more scalable, resilient and sustainable than traditional businesses



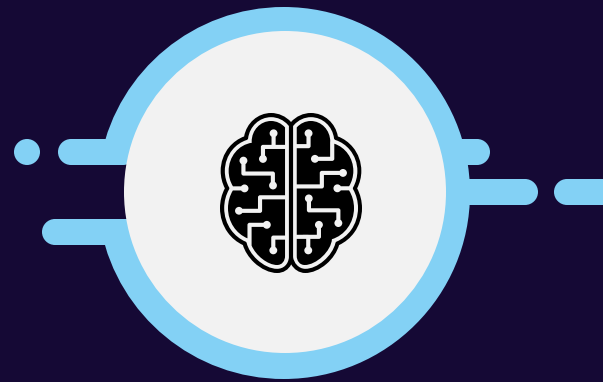
Traditionally, only **20%** of businesses sustain revenues greater than **\$50M**

# Digital innovation is mission critical... as Digital Transformation is accelerating



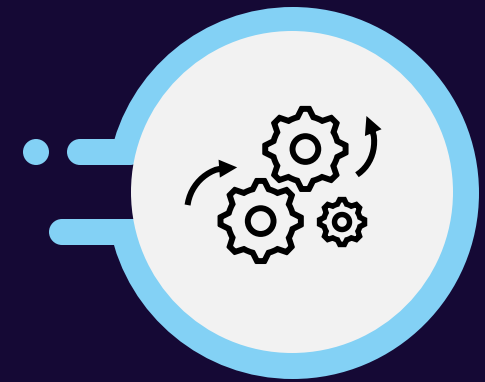
## Heterogeneous environments become the norm to manage

- **76%** users utilizing two+ public clouds<sup>1</sup>
- **70%** workloads not on public clouds<sup>2</sup>
- **20B** internet-connected devices by '24



## Data explosion triggers urgency for AI at scale

- **2-3x** growth in total data by '25<sup>3</sup>
- Chief Data Officer role growing fast<sup>4</sup>
- Top AI needs for decision making and automated operations<sup>5</sup>



## Digital automation is essential to keep competitive operations

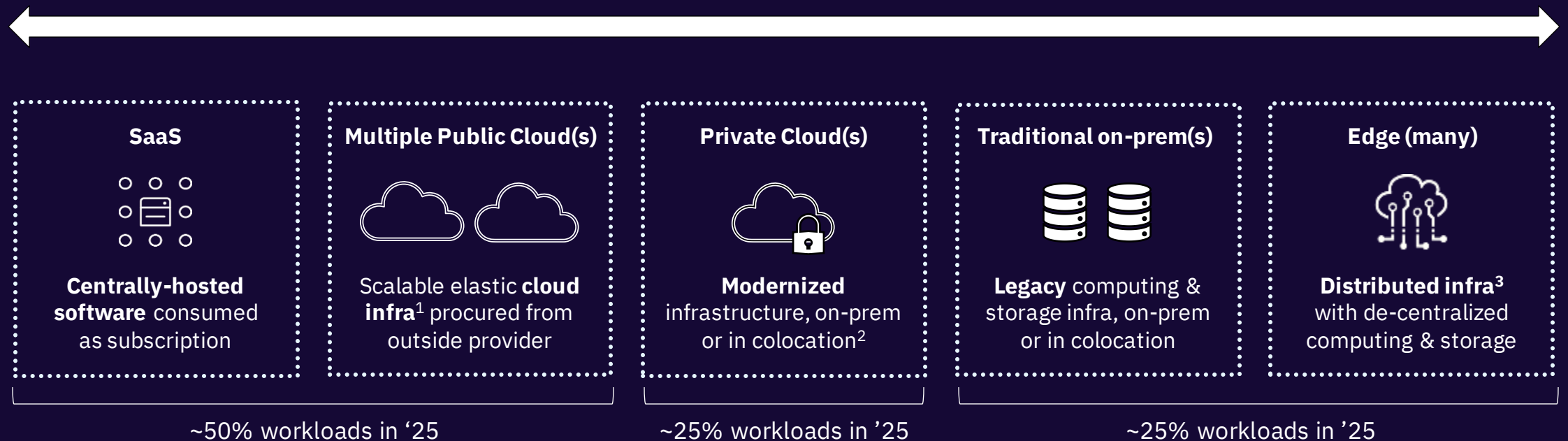
- **83%** Enterprise agree that intelligent automation can improve business results<sup>6</sup>
- **56%** manufacturers implemented AI-driven robotics for autonomous decisions<sup>6</sup>
- Worker shortages turbocharging the imperative for automation



**Security challenges are heightened : 40%** increase in number of malicious security breaches in 2020<sup>7</sup>

# Enterprises must drive innovation across their heterogenous environments

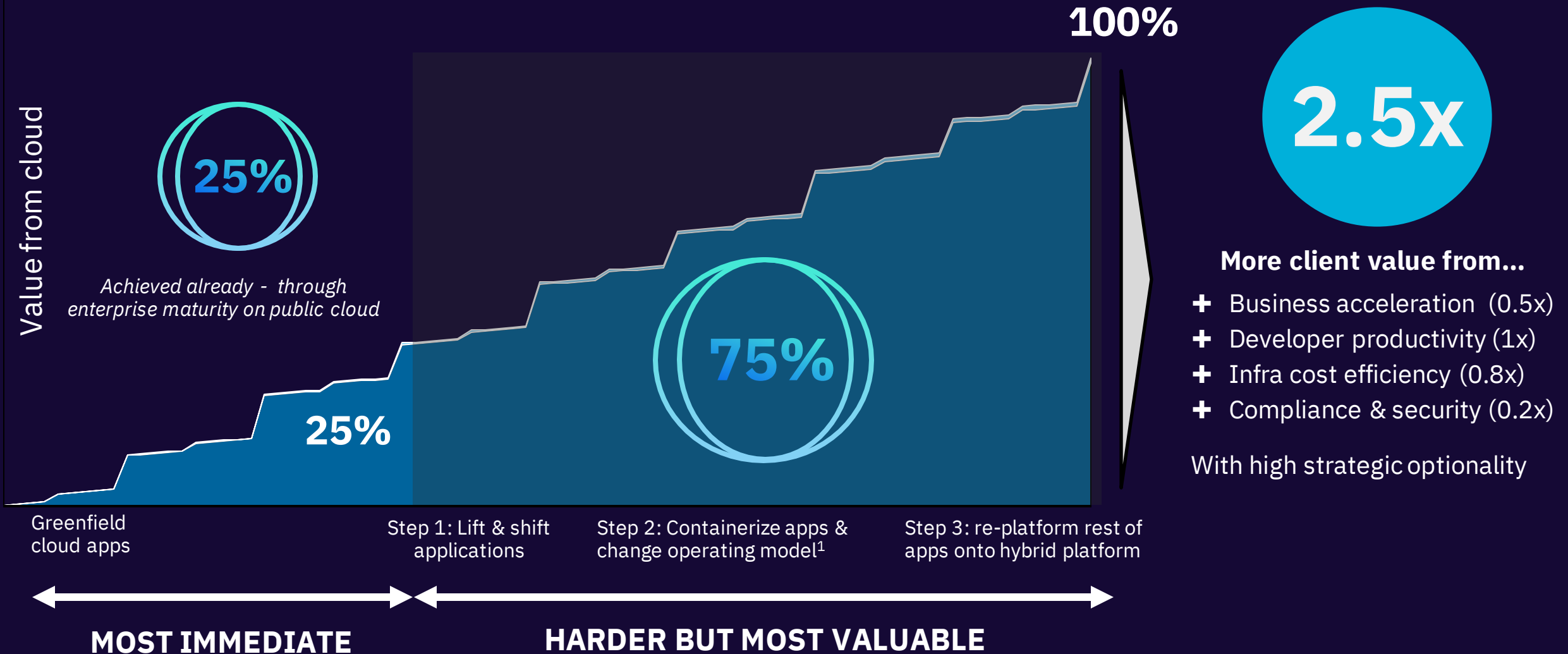
**Hybrid Cloud:** Integrate and orchestrate enterprise workloads in multiple environments



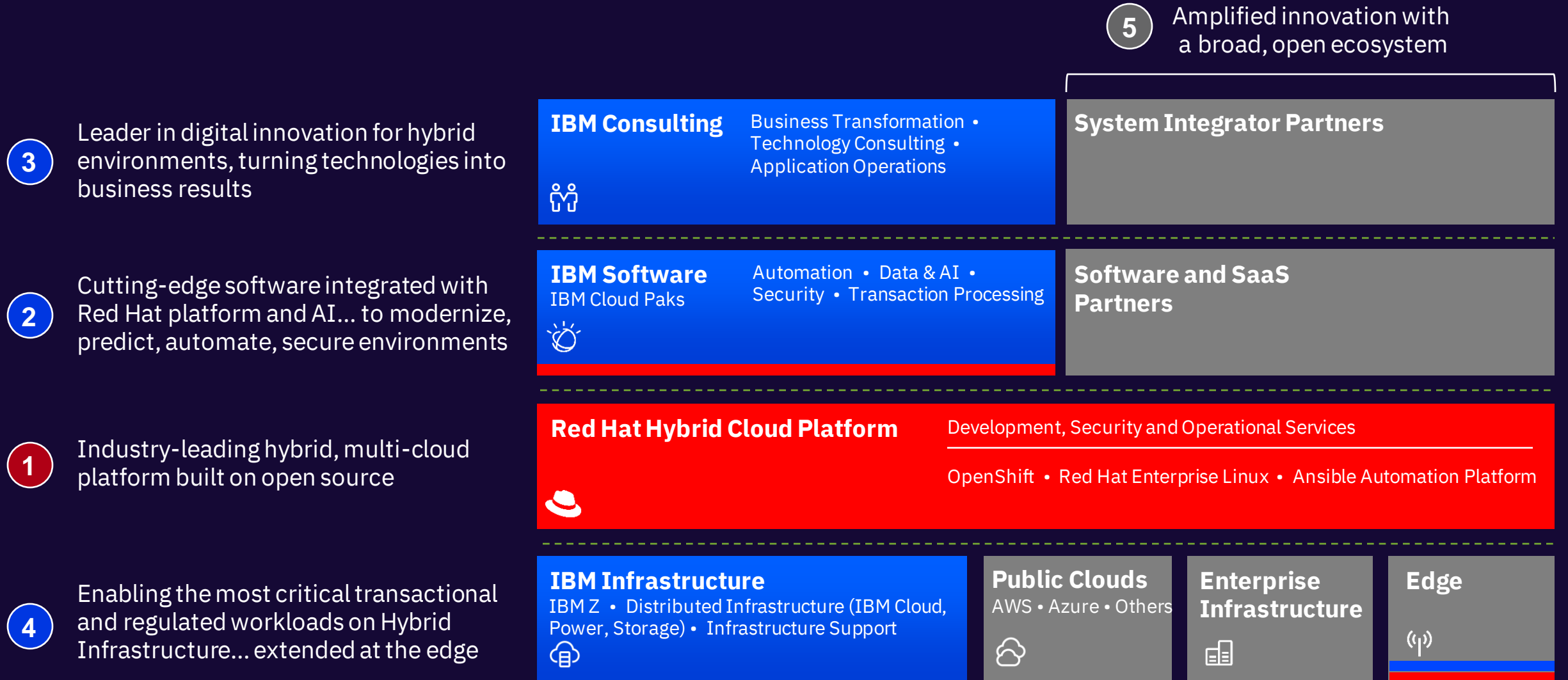
Enterprise look for flexible, secure and open platforms... to operate and develop services consistently

# Hybrid Cloud journey unlocks the full value of digital innovation

A catalyst to accelerate innovation & development, while reducing duplications & regulatory risks



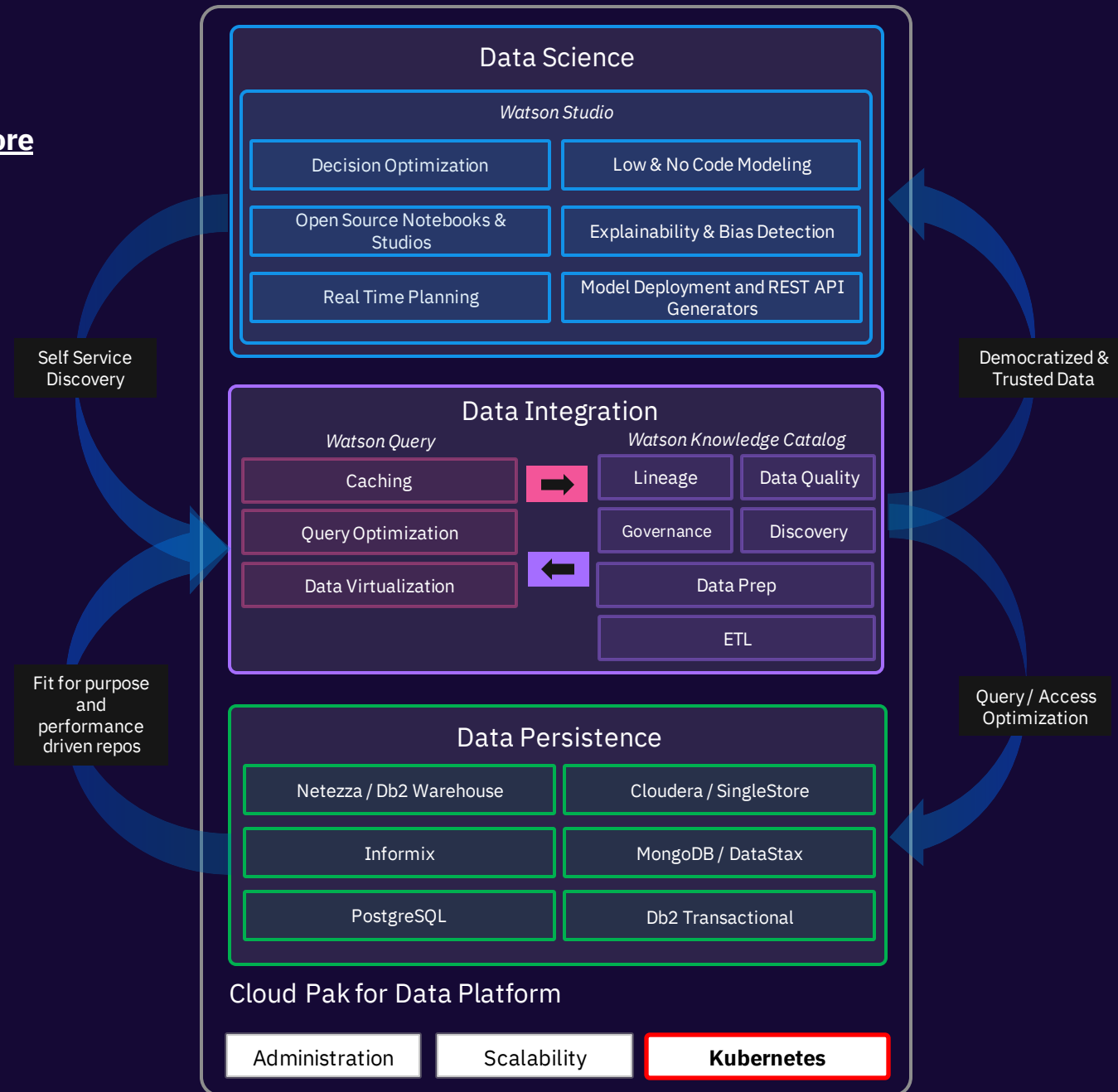
# IBM approach to deliver Hybrid Cloud and AI value... ... to be the catalyst that makes the world work better



# IBM Cloud Pak for Data

A vertically integrated platform that enables our Data Fabric and **more**

- **Unified Data & AI Ecosystems Out-of-the-box** enable a width of complimentary and integrated capabilities that matures with your business over time vs. the react and buy approach of today
- **Supports the Full Lifecycle of Data Management** from data access, persistence, governance, modeling, training, deployment and evaluation which in turn enables scale vs. isolated / departmental skills
- **SaaS or Self Managed on IBM, AWS, Azure or GCP**
- **Cloud Agnostic** software and compute model that enables flexibility so you can deploy services across ANY public or private cloud on any combination of them so you can have the freedom to deploy wherever you see fit



Private

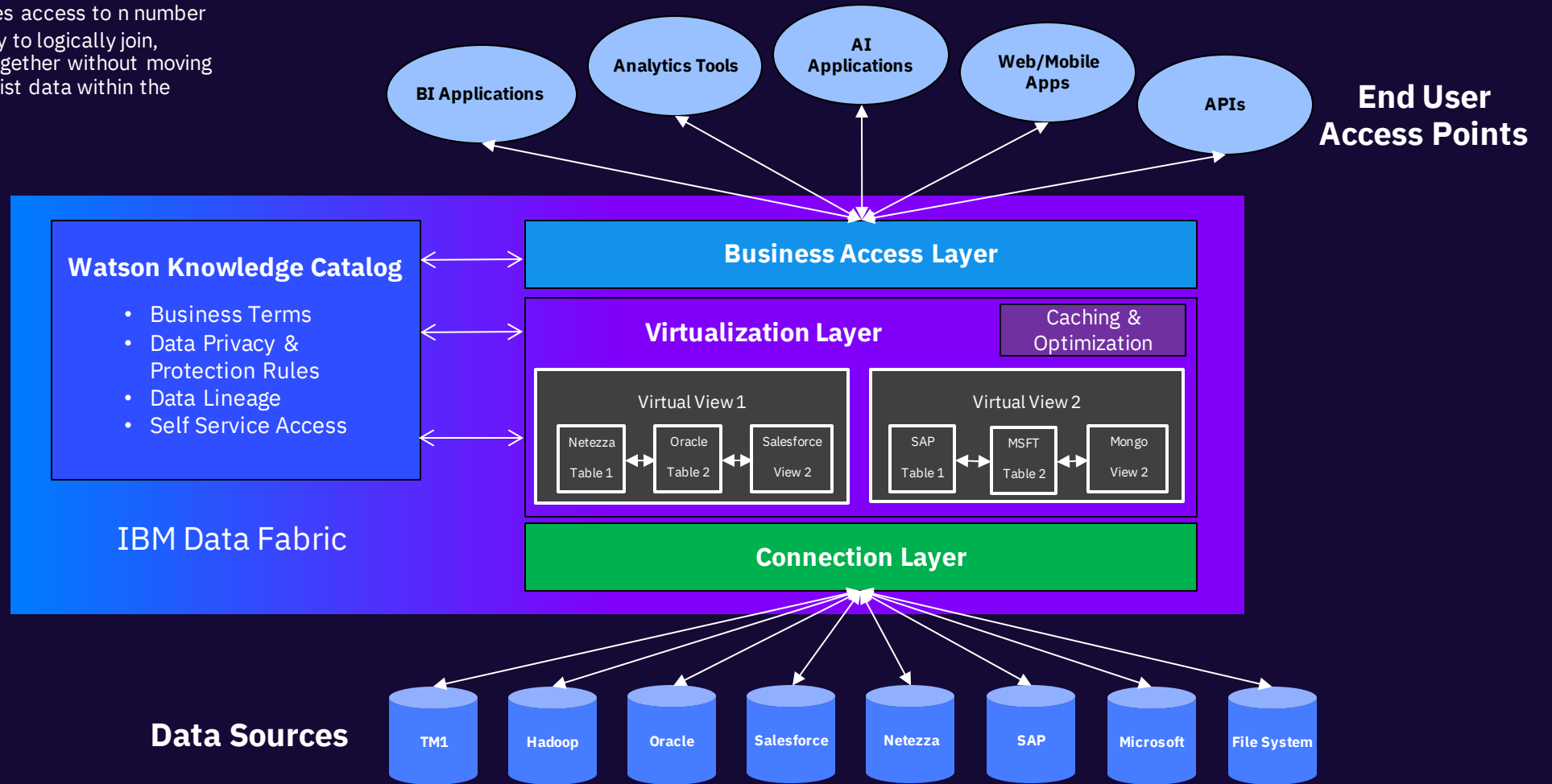






# Data Virtualization centralizes access to high quality, governed and curated enterprise data enables Data Scientists to access the right information 8X faster

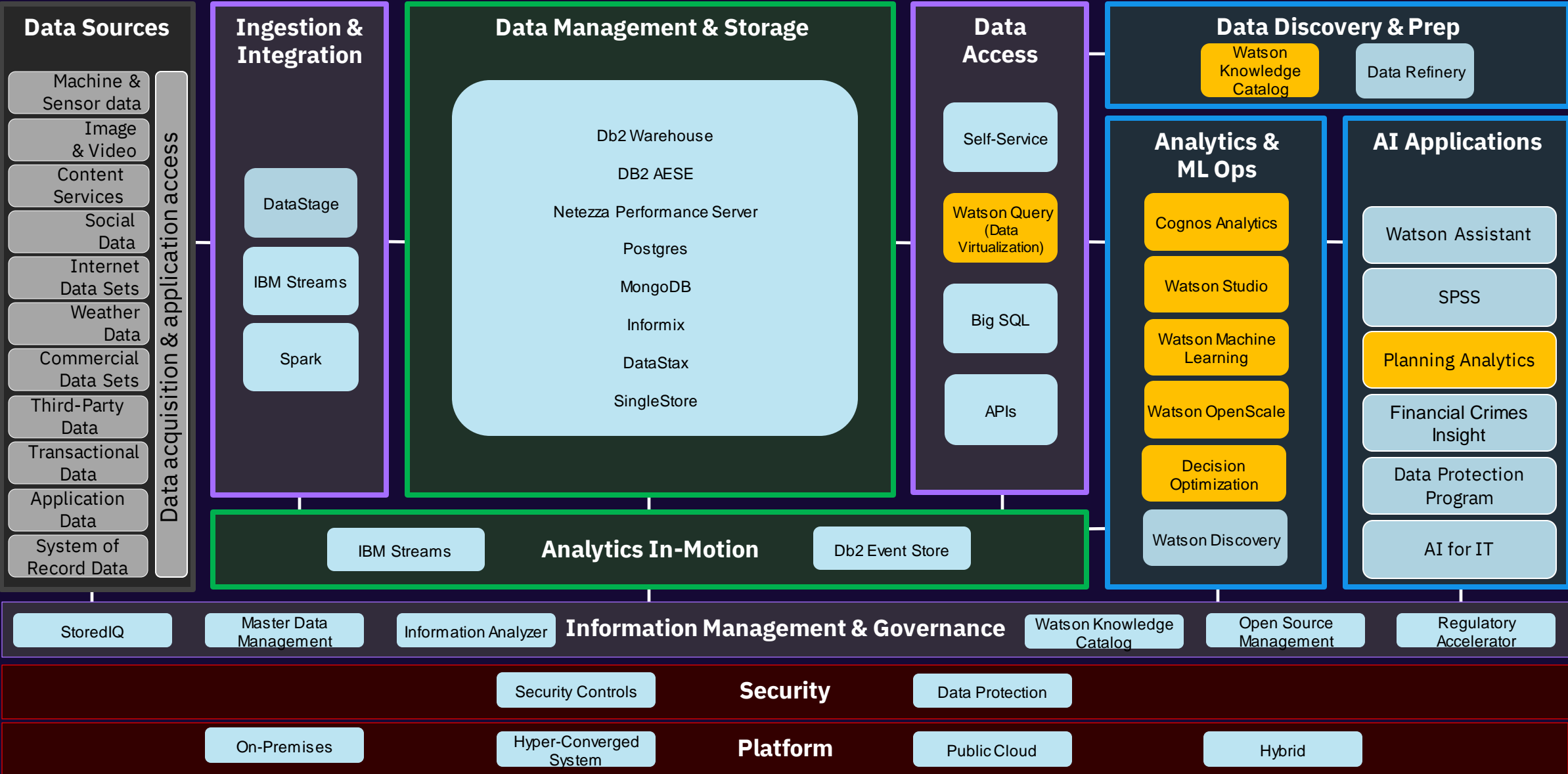
**Watson Query** virtualizes access to n number of repositories and enables the ability to logically join, aggregate, and union data sources together without moving or replicating data. You can also persist data within the embedded cache



IBM is first to market with a parallel processing model instead of hub-and-spoke

# Reference Architecture – IBM Data Fabric


Inter-change/operable



# Data Fabric – Deployable in Public Clouds ... or on Prem

Microsoft | Azure Marketplace More ▾ Search Marketplace 🔍

Products > IBM Cloud Pak for Data



## IBM Cloud Pak for Data

IBM Software


[Overview](#) [Plans + Pricing](#) [Ratings + reviews](#)

Plan	Description	Monthly Price
<b>Standard Option</b>	Cloud Pak for Data Standard Option: 48 VPCs  For customized pricing please email : cpd_on_azure@wwpdl.vnet.ibm.com	US\$16,800.00/month

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## IBM Cloud Pak for Data

Sold by: [IBM Data and AI](#)

IBM Cloud Pak® for Data is a unified data and AI platform that runs on any cloud. Utilize a data fabric to automatically break down data siloes, improve data quality and enhance data privacy and security. Build and infuse trustworthy AI across your business to drive digital transformation.

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## Developing a Hybrid-Cloud Data Fabric On-prem and Azure

[Audiogram: ING's Ferd Scheepers shares his vision of using data fabric in a hybrid cloud environment](#)

[Blog: ING shares a vision where they use data fabric in a safe, hybrid cloud environment](#)

[Ebook: How to drive your DataOps framework with a single layer of business knowledge that supports self-service, data governance, AI, natural language processing, and accelerated data lake generation.](#)

Industry: Banking & Financial Markets  
Geography: Europe

### Business Challenge

- **ING is a large, complex bank with mix of disparate data silos with both legacy and modern capabilities.**
- **Adherence to numerous industry regulatory requirements made accessing and querying data difficult and complex; data lineage was a large factor.**
- **Data insight initiatives were often slowed or delayed.**

### Solution

- **ING sought to move to one corporate operating model, in anticipation of GDPR and other cross-border regulatory requirements.**
- **ING partnered with IBM in order to streamline data management and applications across all operational countries by developing a single operating model strategy and platform.**

### Outcome

- Ensure proper data governance, while simultaneously leveraging data from across the bank
- Consolidate stacks into a single user experience platform; increasing collaboration, streamlining application management, and optimizing licensing and IT cost drivers
- Leverage data virtualization for existing on-premise investments with data to remove data silos

### Solution Components

#### Data Fabric

- IBM Cloud Pak for Data on premise with
  - IBM Data Virtualization
  - IBM DataStage
  - IBM Watson Knowledge Catalog
- Services from IBM's Expert Labs team and IBM's Data Science and AI Elite team



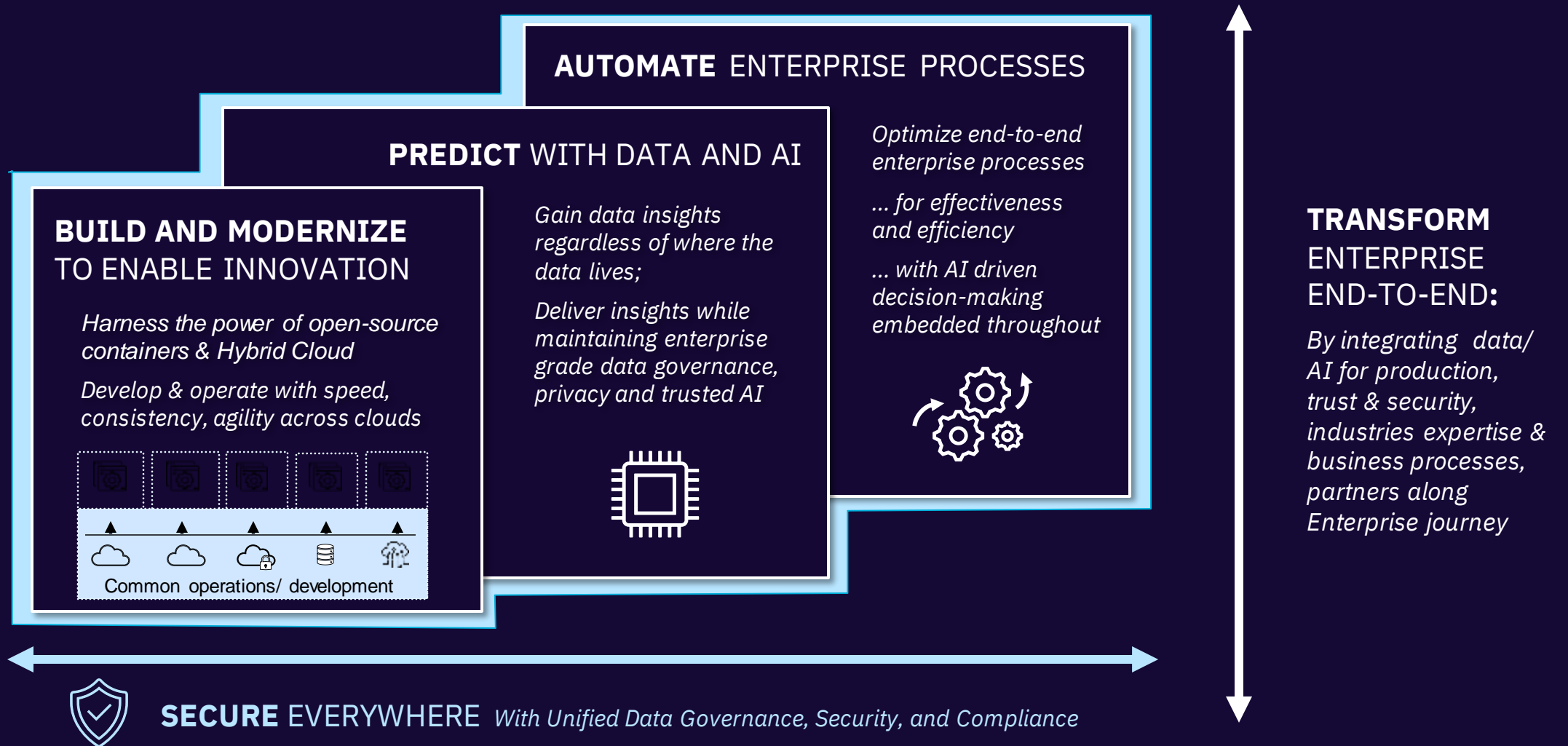


Sure. So as you know,



# IBM Value Proposition

Flexible, secure, open platform at the core ... scale up solutions for Enterprise digital transformation







## *In Summary*

As a catalyst to digital transformation, IBM accelerates client's journey to long-lasting value

**Enterprise-focused** • Delivering technology & outcomes

**Hybrid** • Innovating where your business is

**AI** • Embedded into business processes & workflows

**Open Source** • Innovation foundation for the future

**Trust** • Highest level of security and AI explainability



Market leading hybrid platform...more than 94% Fortune 500 use Red Hat<sup>1</sup>



40% Fortune 500 have IBM Cloud Paks ... and 2/3<sup>rd</sup> utilize IBM Security



100% of Top 10 companies in major industries<sup>2</sup> are IBM Consulting clients



90% top 50 banks run on IBM Z... 450+ clients, 115 ISVs on FS Cloud<sup>3</sup>



# An accelerated expansion with IBM Ecosystem... ... an essential vehicle of end-to-end value

## EXAMPLES



And many more...  
... enabled through IBM Garage – an end-to-end model for accelerating digital transformation

### Strategic optionality

*Hundreds of best-in-class partners*

### Business Acceleration

*4x faster to market for clients via partnerships*

### Developer productivity

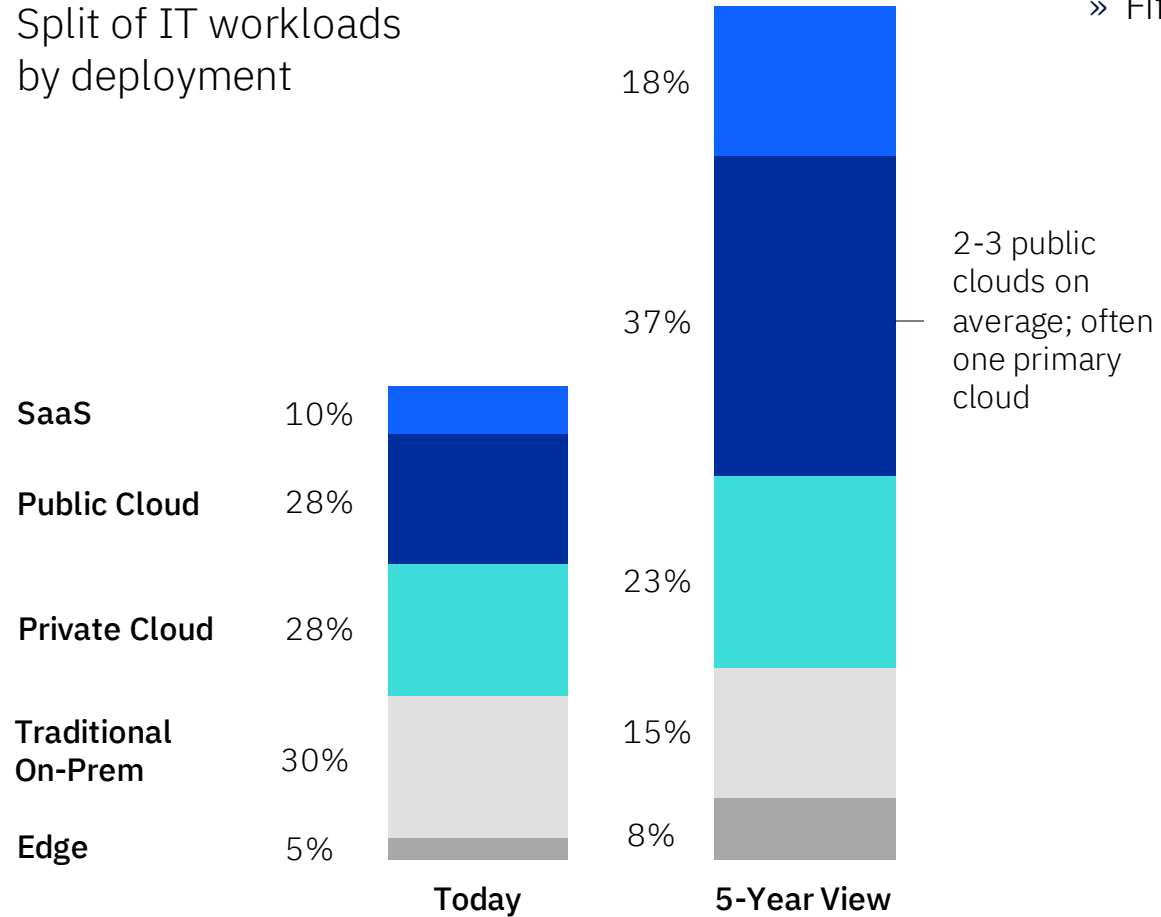
*80% time saved from apps modernized*



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### Split of IT workloads by deployment



» Fifth level

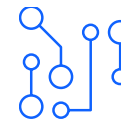
**SaaS** is an increasingly important destination for back office / standard workloads

**Clients fostering move to public cloud:**

- Workloads traditionally considered unsuitable for public clouds
- Global direction across clients, but speeds may vary (5/10 years)
- Multiple clouds choice, driven by financial leverage or specialization

**Selected workloads (~35%) to remain on private cloud and traditional on-prem**—regulated workloads, strategic IP or difficult-to-migrate critical workloads

**Edge workloads to double within 5 years, outsized in Manufacturing and Telco**—driven by proliferation of IoT devices & appliances converted to Hybrid Cloud end points



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Chief Data Officer role is increasingly important due to increasing data and analytics need

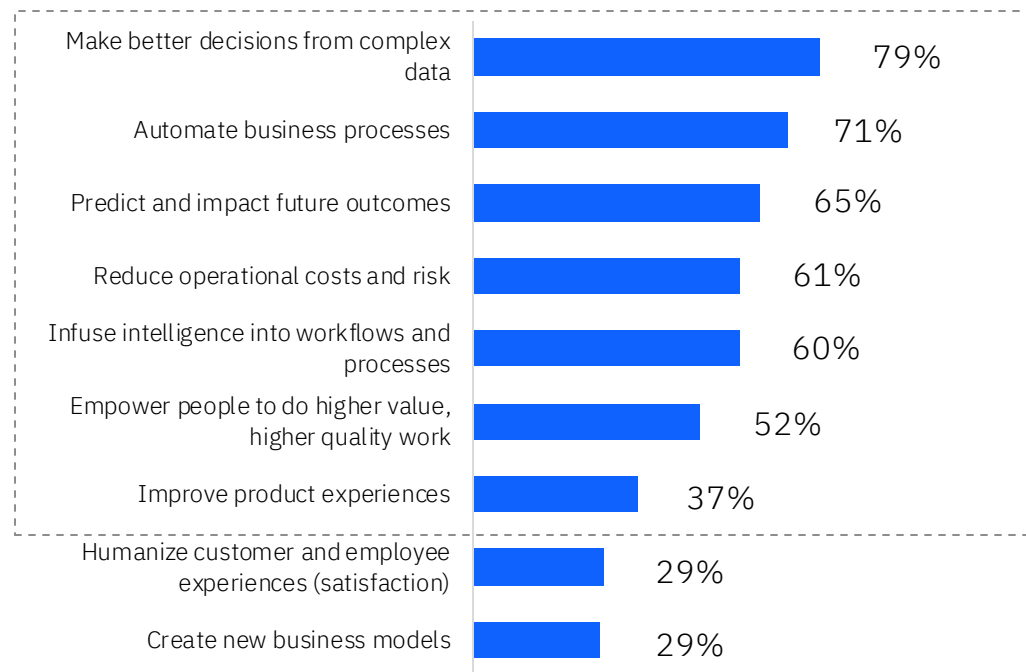
- Number of CDOs doubled from 2019 to 2020<sup>1</sup>
- By 2021, the CDO will be a mission-critical function in 75% of large enterprises<sup>1</sup>

### Top responsibilities for CDOs

Defining and implementing data and analytics strategy for the organization	79%
Oversight of data and analytics initiatives	74%
Creating and implementing information or data governance policy	72%
Data and Analytics Center of Excellence	64%
Data management including operations and maintenance of data and analytics	63%
Creating business value from information	61%

The top 6 desired AI outcomes are about leveraging data for better decisions and automating for improved operations

Desired outcomes from AI initiatives<sup>2</sup>  
(% Selected, Multiple Response, Among Total)



(1) Gartner 2020 CDO Survey, (2) IBM MD&I Watson Perceptions Research 2021, n= 266

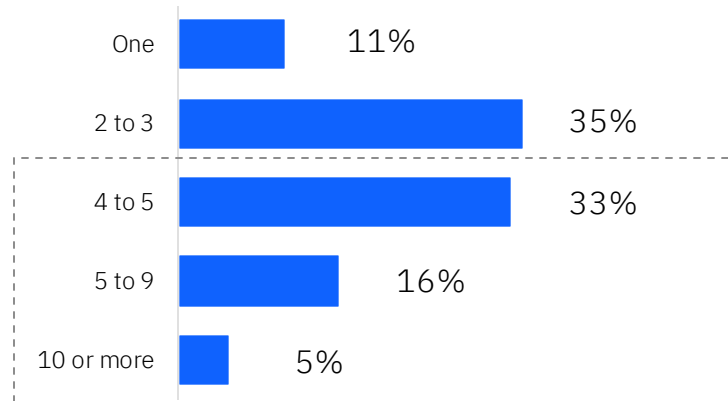


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54% of respondents in Gartner’s survey reported to have 4+ concurrent automation initiatives

How many distinct automation initiatives (e.g., to automate a business process) did you work on in the past 12 months?<sup>1</sup>



Improved business results and operations are leading to higher investment in automation

**+8%**

Increase in revenue from intelligent automation reported by manufacturers<sup>2</sup>

**+50%**

Improvement in product defect detection from intelligent manufacturing<sup>3</sup>

**+20%**

Improvement in yields from intelligent manufacturing<sup>3</sup>

**85%**

Will increase or maintain hyper automation investment strategies in next 12 months<sup>4</sup>

(1) Gartner 2021, n=558; (2) 2020 IBM Institute for Business Value, (3) IW Staff. “Benefits of AI on Manufacturing: A Visual Guide. Industry Week.”; (4) Gartner Poll on Dec 1, 2020



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### Digital transformation comes with new cyber risks

**82%**  
 respondents believe their organizations experienced at least one data breach as a result of digital transformation<sup>1</sup>

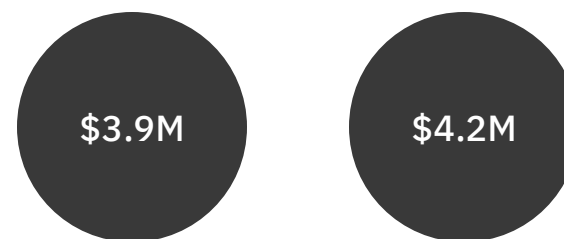
**63%**  
 respondents say their organizations have difficulty ensuring there is a secure cloud environment<sup>1</sup>

**55%**  
 respondents say with certainty that at least one of these breaches was caused by a third party<sup>1</sup>

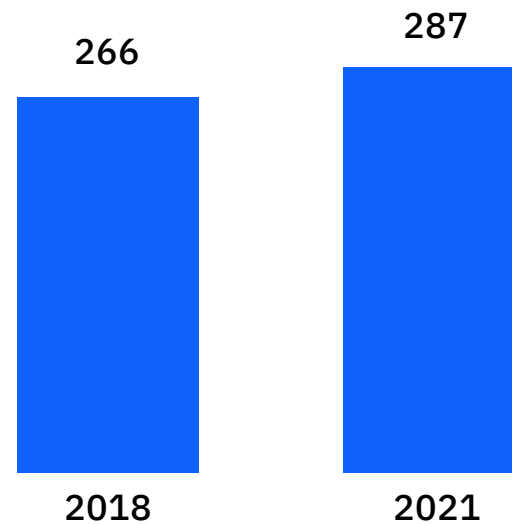
**66%**  
 believe cyber security attacks, third party breaches, and system downtime will be their biggest threats in the next two years<sup>1</sup>

... along increasing costs to address data breaches

Average cost of a data breach<sup>2</sup>



Average days to identify & contain a data breach<sup>2</sup>



(1) 2020 survey of 581 IT security and 302 C-suite executives by Ponemon Institute and CyberGRX; (2) IBM Cost of a Data Breach Report, 2021

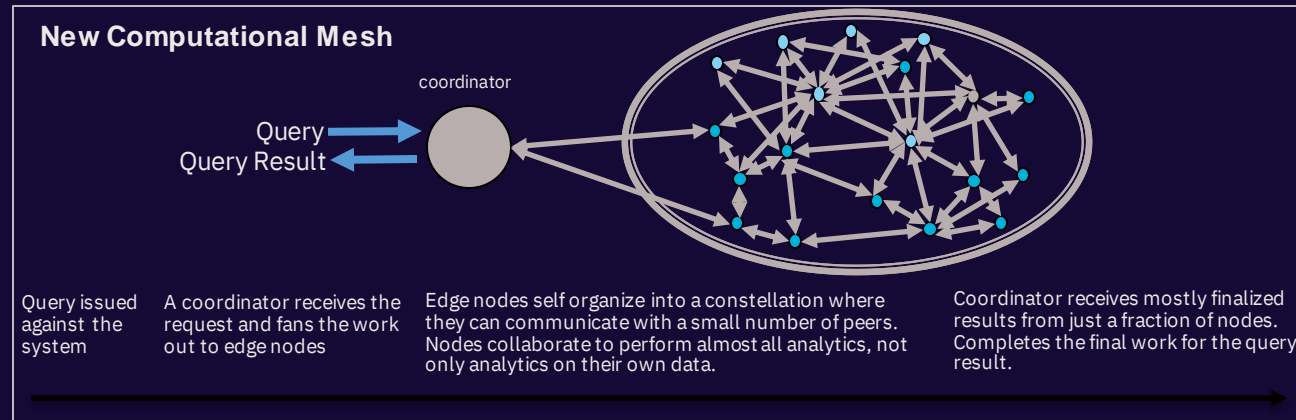
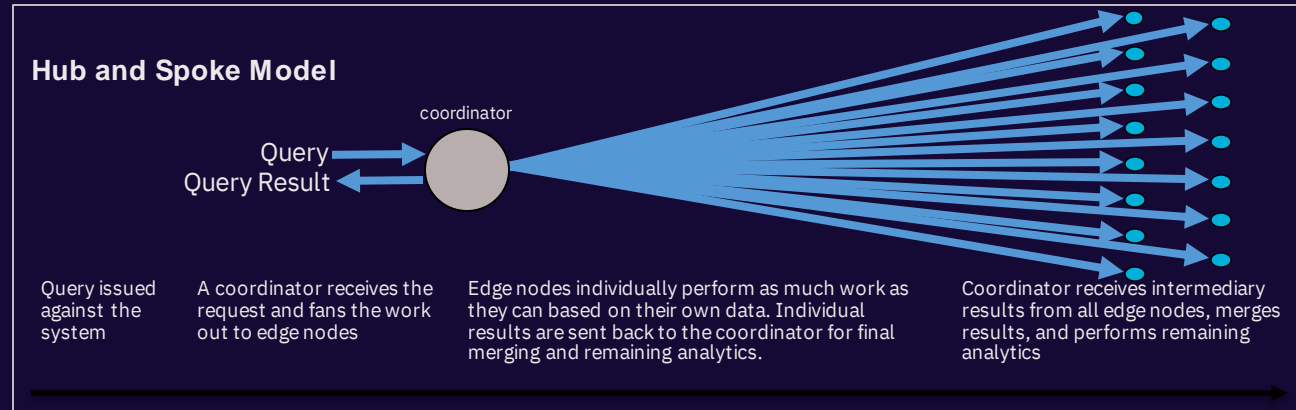
# Key Architectural Differentiation

## Hub and spoke execution models:

- Lacks scalability
- Performance constrained
- Basis for Federation and our competitors

## IBM is first to market with a parallel processing model:

- Theoretically unlimited scalability
- Ease of addition/removal of sources
- Execution pushed down into the constellation mesh



# IBM Hybrid Cloud and AI strategy resonates with our clients

## MODERNIZE



Multi-Cloud operability with modernization of applications and new IT operating model

Hybrid Cloud with RH OCP & IBM Cloud Paks

### Developer Productivity

*30% improvement in productivity  
70% reduction in Time to Market*

## PREDICT



Data-driven decision & predictability by connecting data to people at right time... built on digital modernizing

AI-powered auditing with IBM Cloud Pak for Data

### Business Acceleration

*More insightful audits deployed by AI Infused Platform*

## AUTOMATE



Enterprise workflow automation for better customer & associate experiences

Intelligent automation to scale

### Increased Process Efficiency

*50% improvement in institutional account opening; 30% for retail account opening*

## SECURE



Create secure business through real-time threat insights & automation tools

Zero Trust to secure everything

### Compliance & Security

*300% reduction in false positive alerts*