IBM Db2 + AWS Better Together

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Mark Brown
AWS Senior Partner Solutions Architect on AWS, IBM Strategic Alliance Team

Michael Kwok, Ph.D.
Executive Director, Db2, BigSQL, and Data Virtualization Development, IBM Data and AI

Miran Badzak
Program Director, Db2 & Databases

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Today’s talk

Db2 strategic direction
Why IBM + AWS
Deep dive on offerings

Welcome

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Miran Badzak
Program Director, Db2

Strategic Direction

30

Years running the world's mission critical applications and analytics

Governed, secure

Continuously available

Effortlessly scalable

Highly performant

Real-time

Automated operations

10/10

largest global banks run on Db2

- Running mission critical banking systems to support trillions of financial transactions per day
- Securing your portfolio, reference, market, and risk data from a data breach
- Detecting fraud and money laundering
- Enabling you to manage finances digitally, across any device
- Managing and analyzing trillions of assets globally

Largest

Fortune 10 retailer runs on Db2

- Powering inventory and supply chain visibility across tens of thousands of stores
- Ingesting and analyzing petabytes of unstructured data from millions of customers every hour
- Personalizing omni-channel experiences for hundreds of millions of customers
- Securing customer payments globally

9/10

largest global auto manufacturing companies

- Enabling a data management foundation to support connected cars and autonomous vehicles
- Optimizing inventory and supply chain operations with real-time insights and high availability of applications
- Predicting maintenance and tuning to keep operations running safely

And we are invested in supporting the future needs of our customers

11K+

customers globally

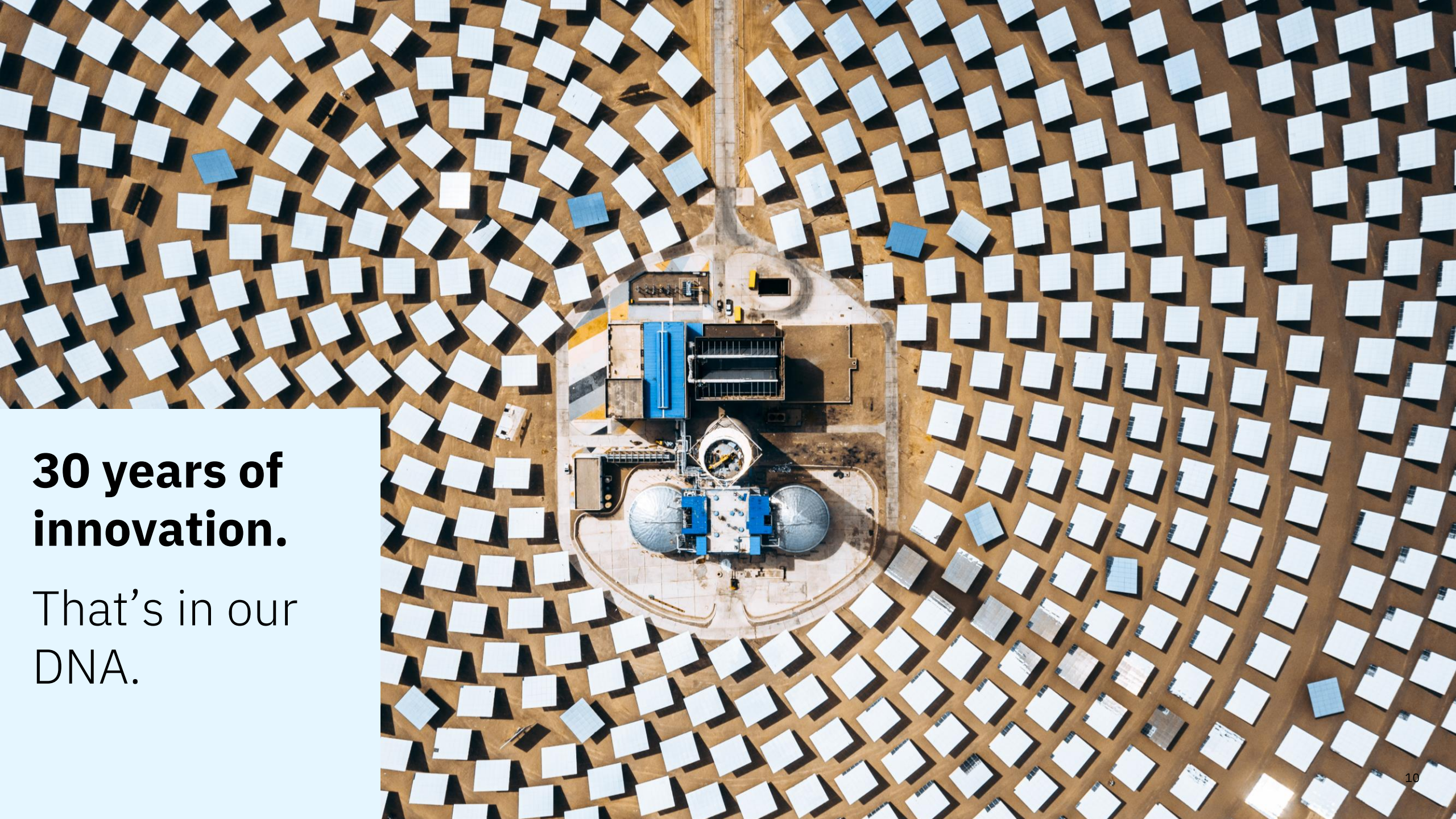
76

of Fortune 100[1] companies run on Db2

100T+

Transactions per day

1 Based on Fortune's Top 100 Companies of 2022



30 years of innovation.

That’s in our DNA.

Db2 cloud-first strategy

Organizationally aligned under single leadership structure fully dedicated to cloud first.

Deploy fully managed services to IBM Cloud as the primary cloud of choice with self-managed reference architectures for others.

All new Db2 releases coming to cloud first, to be followed by the traditional software release. Innovation on cloud available for self-managed deployments as well.

Engaging partnership opportunities to accelerate the delivery of fully managed DBaaS to hyperscalers.

Partnership

Leading software and public cloud coming together

Leading provider of enterprise software

Leading public cloud provider

Jointly engineered solutions deliver the best of IBM and AWS

for customers migrating IBM software workloads to AWS

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IBM AWS Relationship Momentum

Executive Commitment
from both IBM and AWS cementing our focus helping clients transform in the hybrid cloud environment today and in the future.

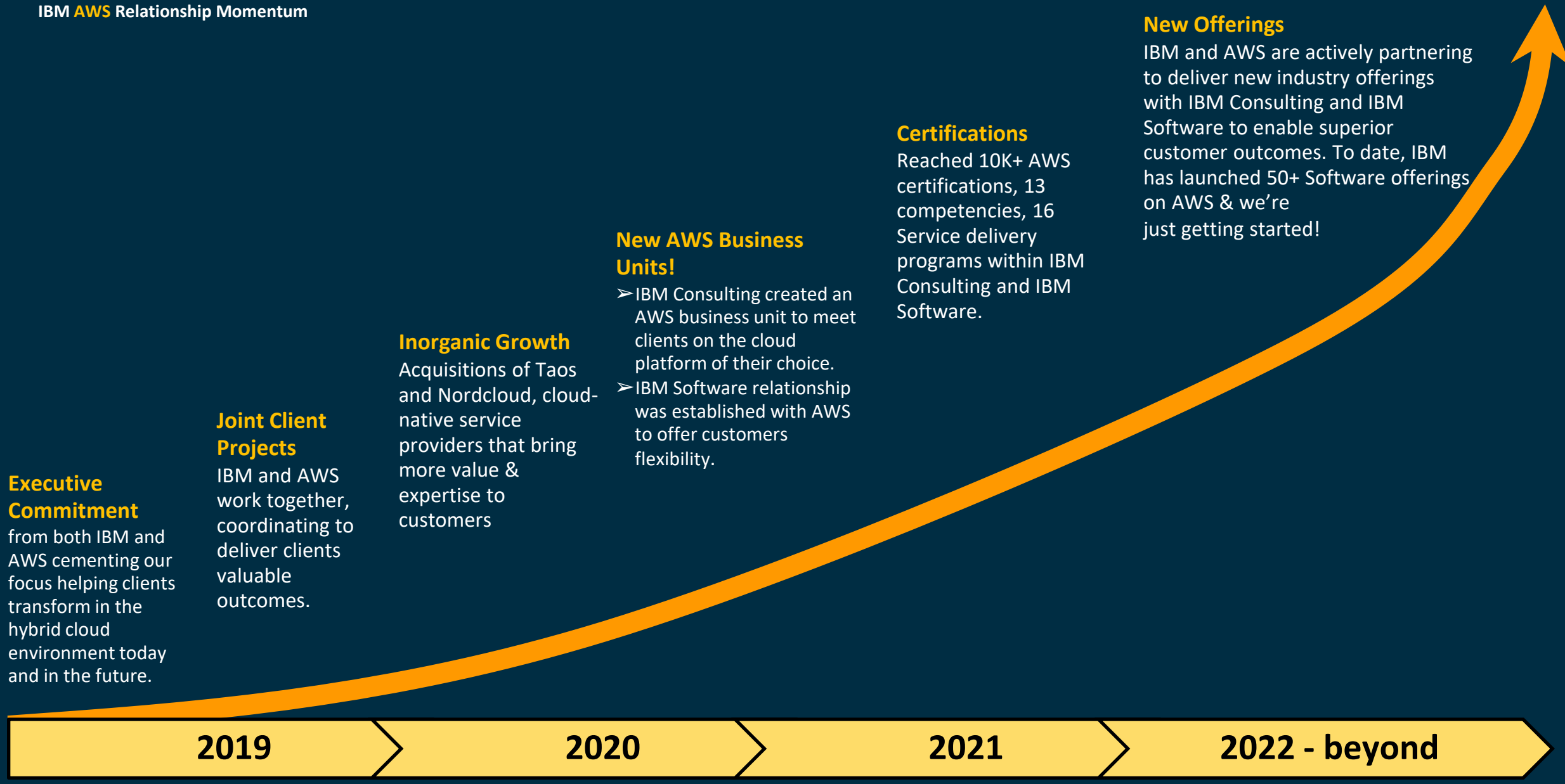
Joint Client Projects
IBM and AWS work together, coordinating to deliver clients valuable outcomes.

Inorganic Growth
Acquisitions of Taos and Nordcloud, cloud-native service providers that bring more value & expertise to customers

New AWS Business Units!
- IBM Consulting created an AWS business unit to meet clients on the cloud platform of their choice.
- IBM Software relationship was established with AWS to offer customers flexibility.

Certifications
Reached 10K+ AWS certifications, 13 competencies, 16 Service delivery programs within IBM Consulting and IBM Software.

New Offerings
IBM and AWS are actively partnering to deliver new industry offerings with IBM Consulting and IBM Software to enable superior customer outcomes. To date, IBM has launched 50+ Software offerings on AWS & we're just getting started!



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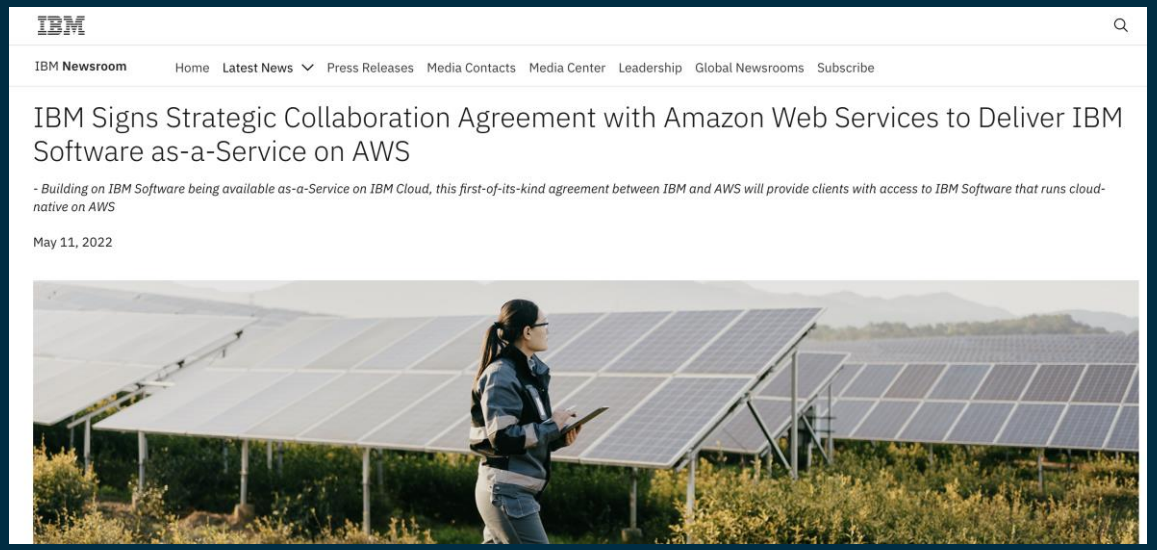
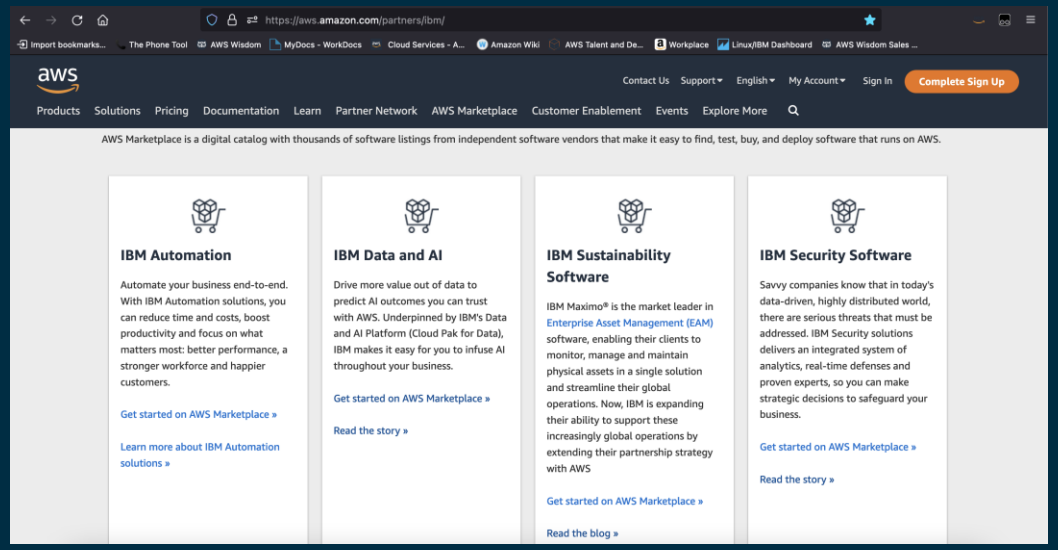
Taking the partnership to the next level





IBM is bringing a broad array of its software catalog as Software-as-a-Service (SaaS) on **AWS**

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IBM on AWS Software plays

Data & AI

Security

Automation

Sustainability

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Modernization

Cloud transformation is accelerating

57%

of customers are looking to migrate more workloads to the cloud*

59%

of customers want to optimize existing use of cloud (cost savings)*

55%

Faster time to market for mature cloud adopters vs. on-premises**

*Source: Flexera 2022 State of the Cloud Report
**Source: McKinsey Quarterly 2021

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Workload migration and modernization results

31%

Average infrastructure cost savings

43%

Fewer security incidents per year

62%

IT staff productivity boost

3x

More features delivered per year

Sources: IDC, Nucleus Research, AWS Analysis

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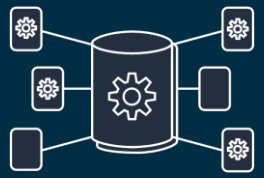
Benefits of modernizing and migrating to AWS

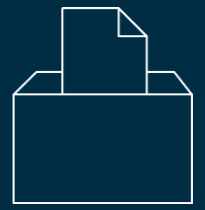
Migrate to free up resources

Transform licensing and cost models to the cloud



Scale & secure infrastructure on demand

Leverage your data with advanced analytics



Innovate with 200+ cloud-native services

Boost **skills and experience** for speed and agility

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Cloud Migrations creates business value

Cost savings (TCO)

Staff productivity

Operational resilience

Business agility

What is it?

Cost savings (TCO)	Staff productivity	Operational resilience	Business agility
Infrastructure cost savings/avoidance from moving to the cloud	Efficiency improvement by function on a task-by-task basis	Benefit of improving SLAs and reducing unplanned outages	Deploying new features/ applications faster and reducing errors

Examples

Cost savings (TCO)	Staff productivity	Operational resilience	Business agility
50%+ reduction in TCO (GE)	Over 500 hours per year of server configuration time saved (**Sage**)	Critical workloads run in multiple AZs and regions for robust DR (**Expedia**)	Buildouts and deployments happen 5x faster (**Intuit**)

Typical focus → Most compelling cloud benefits

Business/value

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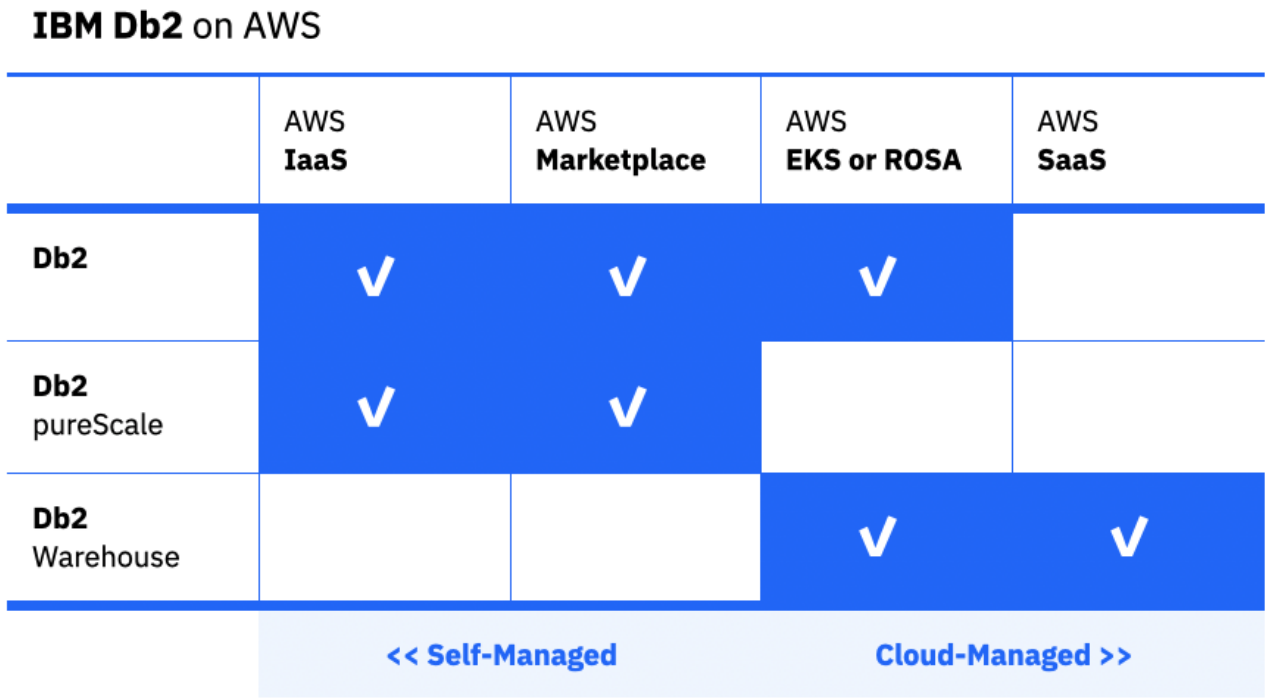
Offerings

Db2 properties on AWS



Db2 database for highly-available deployments:

- Option to run directly on EC2 and EBS IaaS, purchase or deploy through the AWS Marketplace, or deploy the Db2 universal (Db2u) container on fully managed AWS Kubernetes (EKS) or OpenShift (ROSA) services

Db2 pureScale for continuous availability:

- Option to run directly on EC2 and EBS IaaS, or deploy through the AWS Marketplace listing with CloudFormation template, bringing deployment times from days to minutes

Db2 Warehouse for high-performance analytics:

- Option to deploy quickly our fully managed cloud data warehouse or through the Db2u container on ROSA or EKS for self-managed deployments

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Db2U

Enhancing Cloud Native Experience

Db2 Universal Container – Db2U

Db2 Universal Container, a.k.a Db2U, is a containerized micro-service'd Db2 offering for embracing cloud-native modernization.

Operational Management

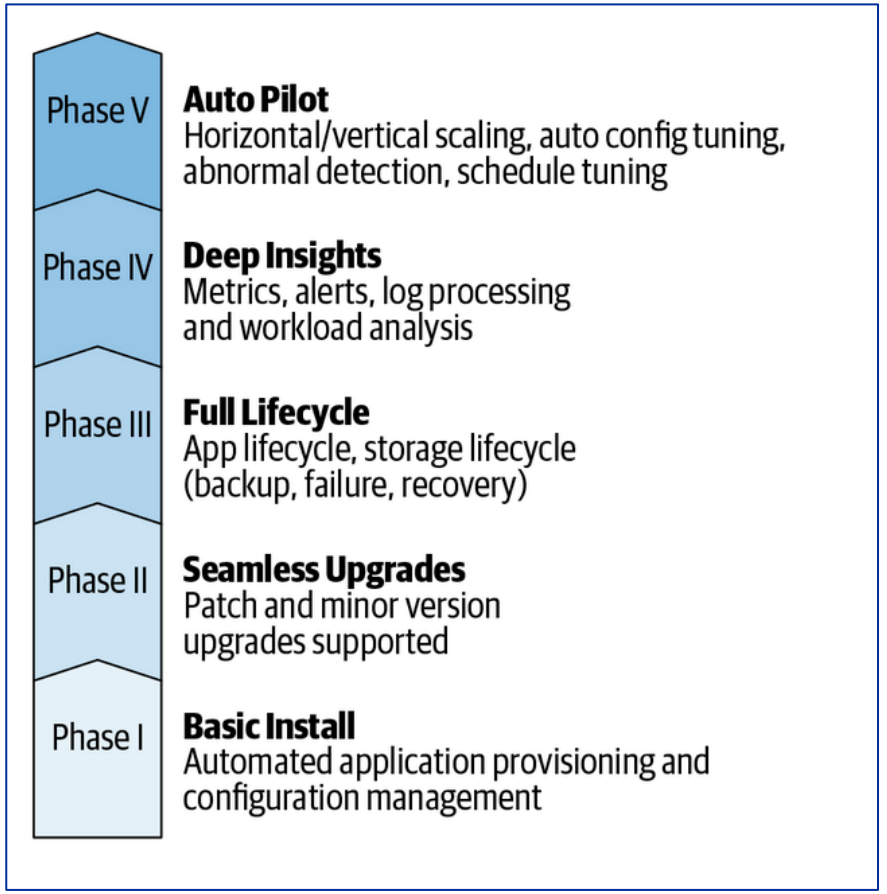
- Package, Configure, Deploy & Manage
- Deployment
- Management

Measured for completeness by a maturity model

- Currently expanding Phase III and IV capabilities.

Delivery

- IBM Operator Catalog
  - Supports Air Gap
- Red Hat Marketplace



Db2U – Public Cloud Support

Amazon Web Services

- Red Hat OpenShift Service on AWS (ROSA)
- Elastic Kubernetes Service (EKS)

Microsoft Azure

- Azure Red Hat OpenShift (ARO)
- Azure Kubernetes Service (AKS)

Google (Coming in 2023)

- Google Kubernetes Engine (GKE)

Reference Architecture Document for AWS: https://www.ibm.com/docs/en/db2/11.5?topic=aws-planning-your-configuration

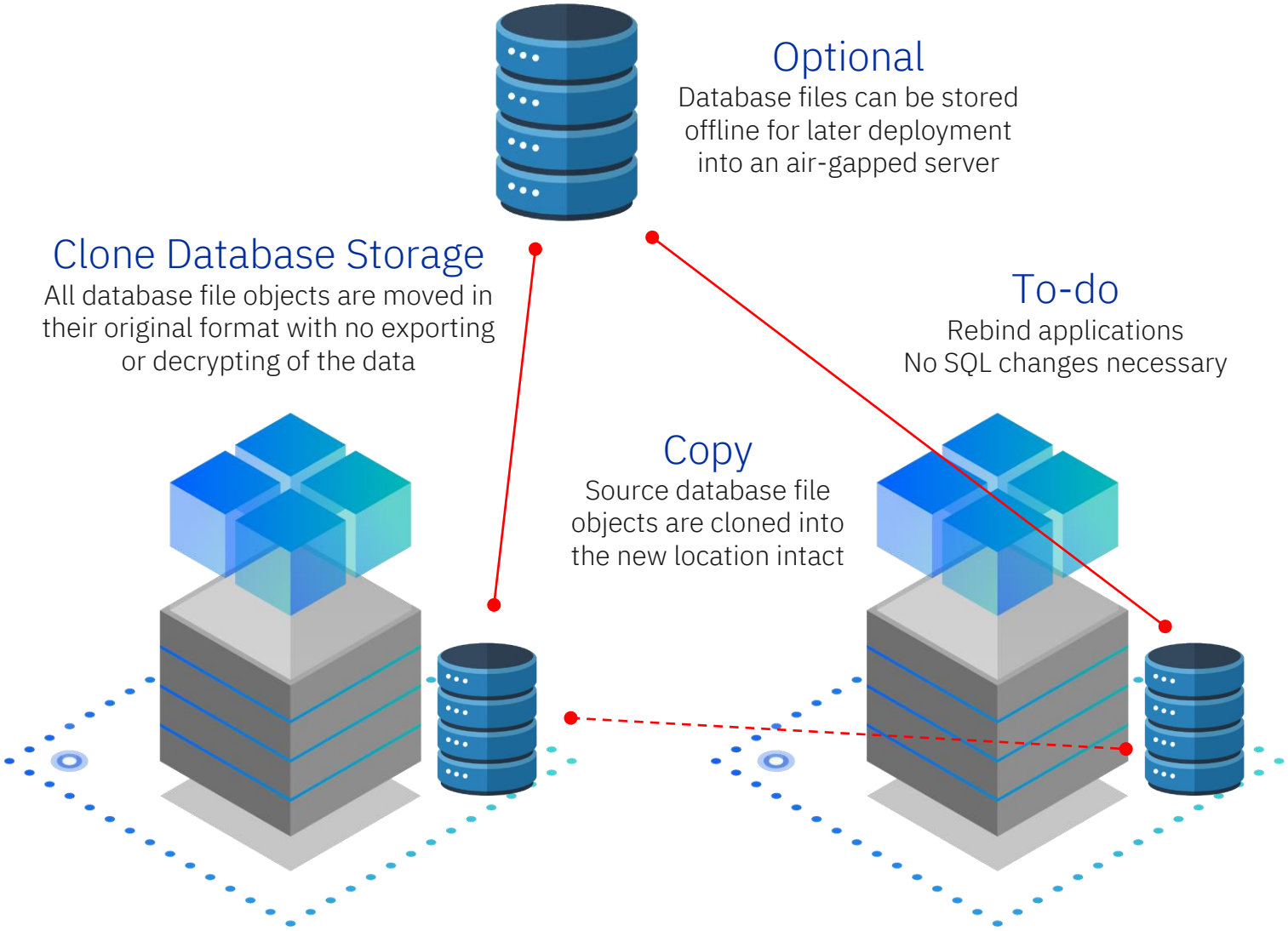
Db2 Click to Containerize

The fastest way to move your data from a traditional on-premise Db2 Linux X64 system to a Cloud Environment

- Move to Db2U on OpenShift, Kubernetes, or Cloud Pak for Data
- Containerize your data or move to a traditional server instance
- Command line or UI tool for flexibility
- With automatic database upgrades

  - V10.5, v11.1, V11.5+

More info: ibm.biz/c2cguide



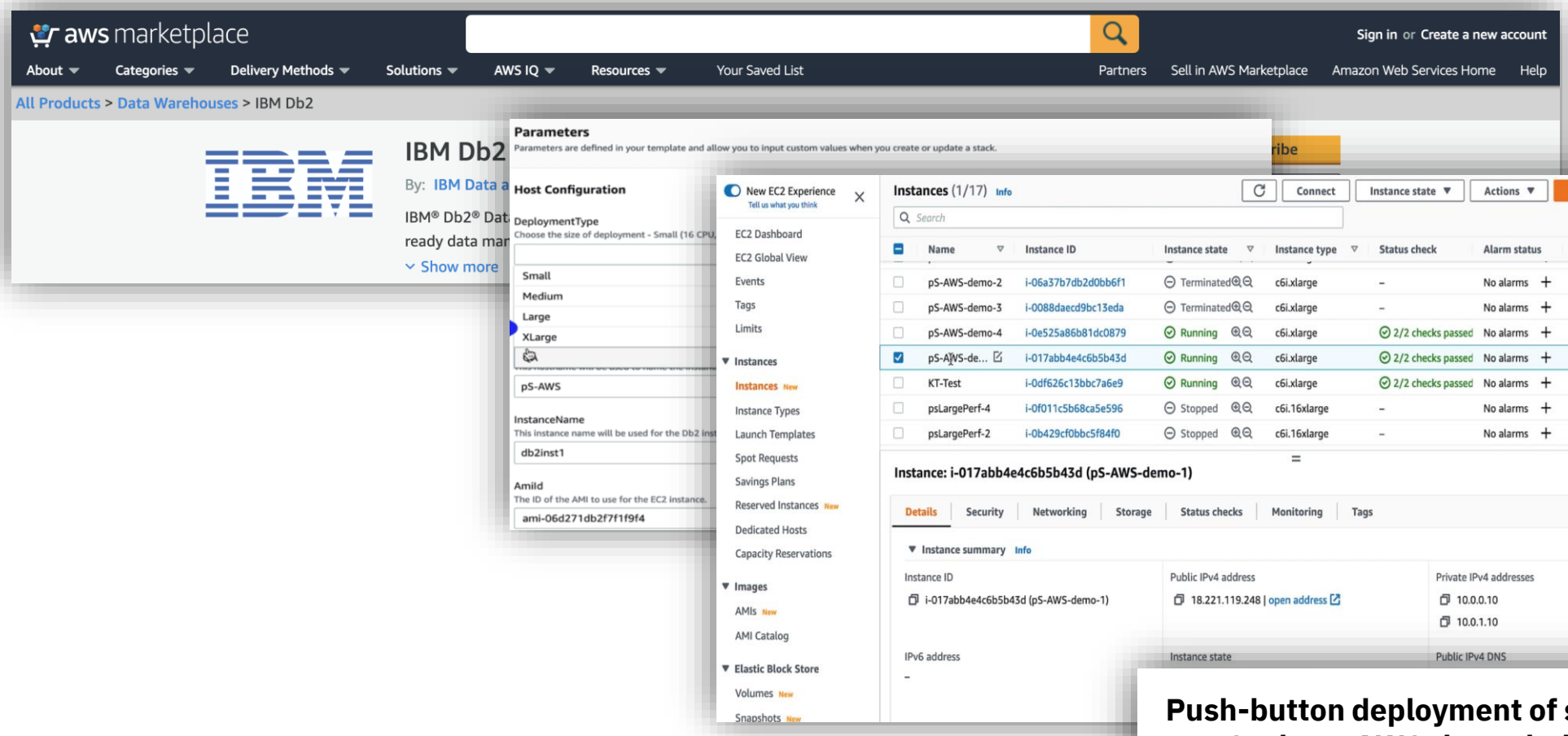
Introducing
Db2 Click to Containerize

George Baklarz
Principal Data & AI Technical Specialist – Americas
Phil Downey
Principal Data & AI Architect

Db2 pureScale on AWS

Bringing the pureScale technology to AWS with deployment time under 60 minutes

Db2 pureScale on AWS Marketplace



Push-button deployment of self-managed pureScale on AWS through the Marketplace. Choose the region, t-shirt size configuration and get going.

Product Page: https://aws.amazon.com/marketplace/pp/prodview-fyclwzxhlopby
Documentation: https://www.ibm.com/docs/en/db2/11.5?topic=providers-db2-purescale-aws

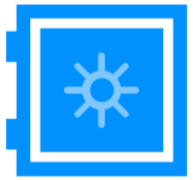
IBM Db2

Db2 pureScale on AWS Marketplace

Db2 Warehouse

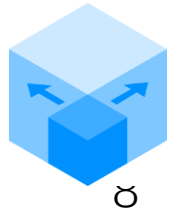
New Architecture and Native Cloud Object Storage

Db2 Warehouse (SaaS)



Fully managed / SaaS
Focus on the analytics, we'll take care of the rest

Blazing-fast
Columnar-organized, memory-optimized data warehouse



Scalable & elastic
Avoid billing surprises and take control of your storage and compute in the cloud

Continuously available
Managed compute, highly available storage, cross-cloud replication

Reliable
Double protection with disaster recovery & self-service backup/restore

Deploy as fully-managed DBaaS on **IBM Cloud** and **Amazon Web Services**

IBM Db2 Warehouse

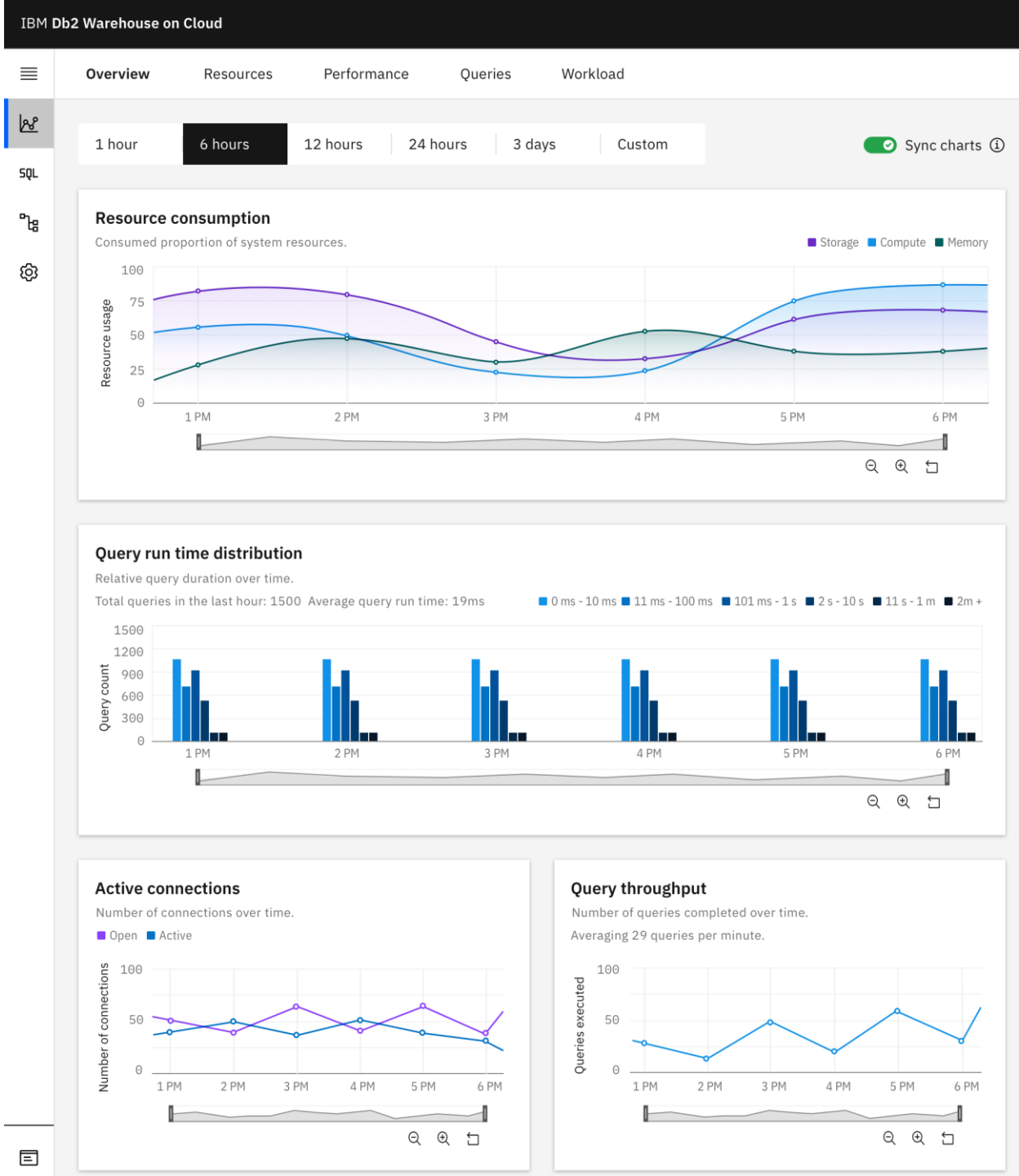
Introducing the third generation of our cloud data warehouse

Key new features:

- Amazon S3 support for table storage, significantly decreasing the cost of storing data without sacrificing performance
- Query multiple open data formats (Iceberg, Parquet, AVRO, ORC, CSV, JSON and more) leveraging existing compute resources dedicated to the warehouse

Other features:

- Fully managed cloud data warehouse scaling up to 1440 cores (2880 vCPUs) per cluster, multi-petabyte-scale, multi-performant storage with seamless transition between compute tiers
- Tiered storage support for Amazon S3 and Block Storage
- Storage auto-increase for Block Storage on set threshold ensuring you never run out of storage for your workloads
- Cross-region snapshot backup to AWS S3 for disaster recovery
- Self-service maintenance windows for product and database engine updates
- New APIs for scaling, updates, backup/restore, logging
- Granular, schema-level backup/restore to S3, restoring only the data you need



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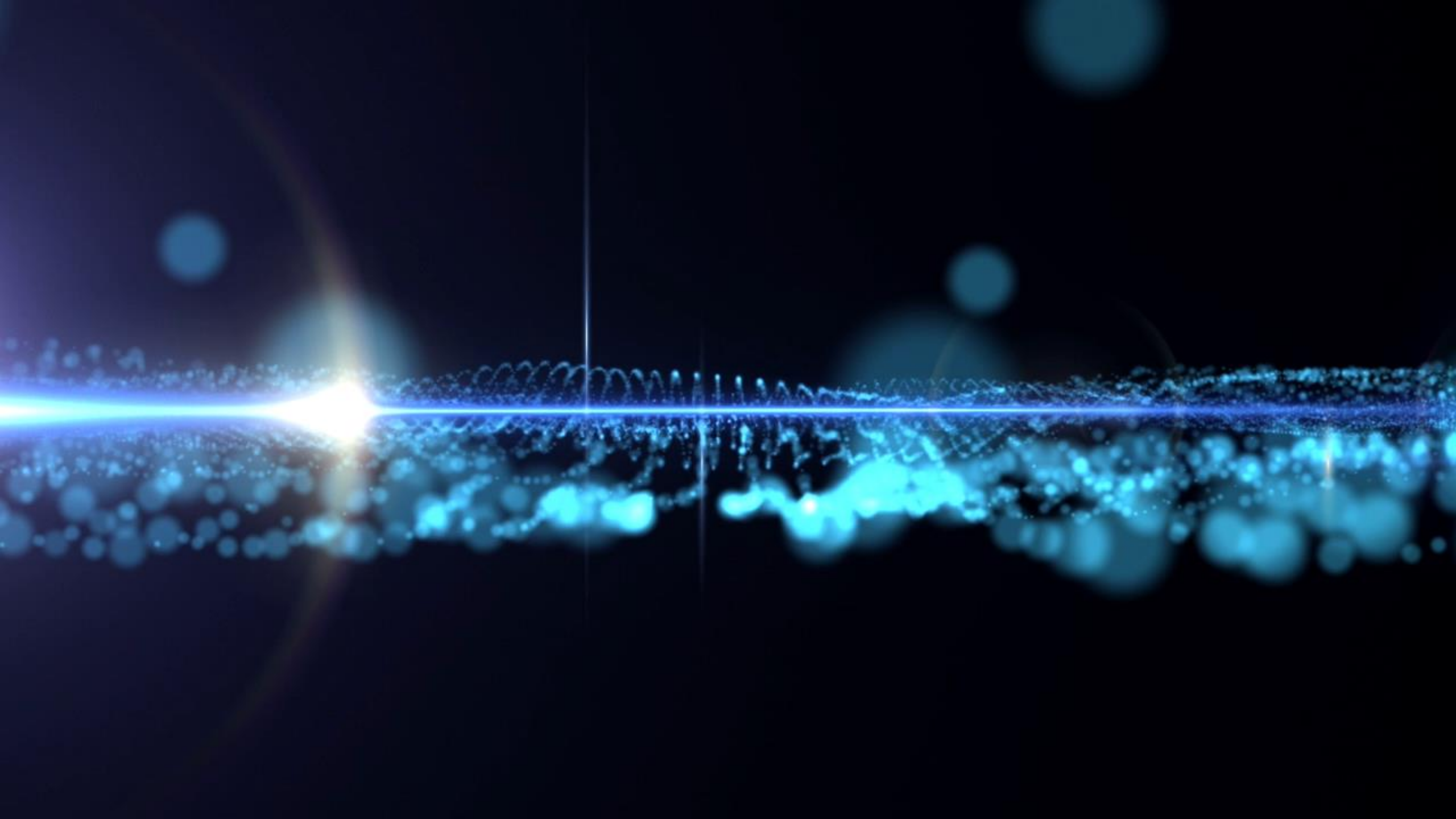

IBM Db2 Warehouse

Preliminary performance numbers comparing Db2 Warehouse Block vs Object Storage

2.6x

Faster SELECT performance

Warm local NVMe cache, test with BDI Serial (5TB)

- Db2W Block Storage: **2289.79s**
- Db2W Object Storage: **897.08s**

2.8x

Faster INSERT performance

Insertion of 14.5B rows into the warehouse

- Db2W Block Storage: **984.556s**
- Db2W Object Storage: **384.674s**

7.2x

Faster UPDATE performance

Update 10% of 14.5B rows at random

- Db2W Block Storage: **850.919s**
- Db2W Object Storage: **118.342s**

41x

Lower cost for object vs block storage

$23/TB/mo vs $935/TB/mo

Comparing Flex Performance $/TB today vs Amazon S3 $/TB

Take your next step toward a data-driven innovation.

Get Started with IBM Db2 on AWS today

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