



LUWLN7 Deep dive into Amazon RDS for Db2

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Introducing Amazon RDS for Db2

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Agenda

- Why did we built this?
- Overview of Amazon RDS for Db2
- How Db2 is built for RDS?
- Key takeaways

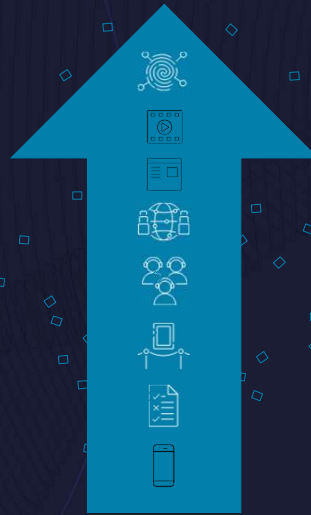
Data explosion requires a modern data strategy

97 ZB of data

created in a year
(source: IDC)

68% of organizations

Reported that they are still
unable to realize value from
data



Business impact

By making **10%** more data
accessible, a typical Fortune
1000 company will see:

**\$65 million increase
in net income¹**

**Data-driven businesses are
growing at an average of
more than 30% annually¹**

¹Read the article on [Forbes.com](https://www.forbes.com)

The cloud has changed the way many of us do business. The cost of compute and storage has come way down, and as a result, businesses are storing more data than ever before. Most companies are storing terabytes, if not petabytes of data. And it is a diverse set of data types ranging from structured to unstructured like social and IoT. IDC forecast there will be over 97 ZB of data created and replicated in 2022 alone. However, most organizations are not putting this new wealth of data to work. A recent Accenture study found that 68% of companies are not able to realize tangible and measurable value from their data.

Data is hugely valuable. Effective leaders use the immense amount of data available to them to make informed decisions, look around corners, and take meaningful action. They build a modern data strategy to deliver insights to people and applications that need it. According to Forrester, organizations that take a data-driven approach grow at an average of more than 30% annually.

Self managing databases is time consuming, complex, and expensive



Hardware & software installation, configuration, patching, backups



Performance and high availability issues



Capacity planning and scaling



Security and compliance

Amazon Relational Database Service RDS

SET UP, OPERATE AND SCALE A RELATIONAL DATABASE IN THE CLOUD WITH JUST A FEW CLICKS



14+ years of operational expertise, security best practices, and innovation



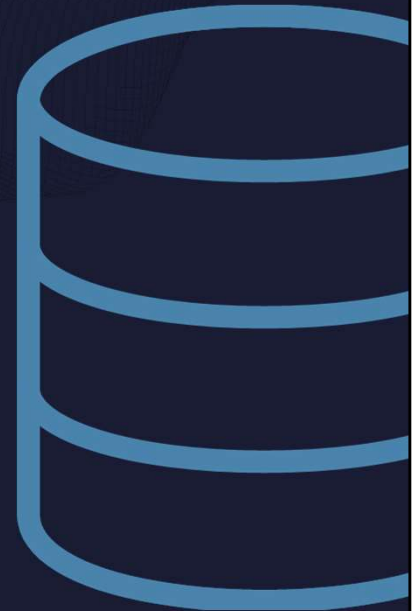
Remove inefficient administrative tasks with managed databases



High availability and durability with Amazon RDS Multi-AZ



Build and scale with the database of your choice



Amazon Relational Database Service or Amazon RDS, including Amazon Aurora, is our collection of managed services that makes it simple to set up, operate, and scale databases in the cloud in just a few clicks. Launched in 2009, customers benefit from over a decade of proven operational expertise, security best practices, and innovation for cloud-native databases. As a managed database, Amazon RDS helps to remove inefficient and time-consuming database administration tasks without needing to provision infrastructure or maintain software. As a result of this innovation, Amazon RDS offers you the ability to customize your managed workload for the high availability and durability you need. Also, it provides the freedom and broadest choice to deploy and scale the relational database of your choice in the cloud or on-premises.

Amazon Relational Database Service (RDS)

DELIVERS ENHANCED DATABASE PERFORMANCE AT LOWER TOTAL COST

264%
three year ROI

39%
lower DB
operation costs

97%
reduction in
unplanned
downtime

The screenshot shows the title page of an IDC white paper. On the left, there is a 'Business Value Highlights' section with a list of metrics: 264% three-year ROI, 39% lower DB operation costs, 5 months to payback, \$37,400 annual benefits per Amazon RDS database, 37% more efficient DBA teams, 60% more databases per DBA, 42% more productive development teams, 86% faster to deploy new databases, 34% reduced database latency, and 97% less unplanned downtime. The main title of the white paper is 'Amazon Relational Database Service Delivers Enhanced Database Performance at Lower Total Cost'. Below the title is an 'EXECUTIVE SUMMARY' section. The source information at the bottom right of the page reads: 'Source: IDC, Amazon Relational Database Service Delivers Enhanced Database Performance at Lower Total Cost, Doc #US45976520, March 2020. https://pages.awscloud.com/RDS_BusinessValue_WP.html'.

60%
more databases per DBA

86%
faster at deploying
new databases

Source: IDC, Amazon Relational Database Service Delivers Enhanced Database Performance at Lower Total Cost, Doc #US45976520, March 2020. https://pages.awscloud.com/RDS_BusinessValue_WP.html

Introducing Amazon RDS for Db2

RUN FULLY-MANAGED IBM Db2 DATABASES ON AWS



Increase efficiency



Focus on innovation



Reduce costs

Automates undifferentiated Db2 tasks, such as provisioning, backups, patching, and monitoring

Easily migrate existing IBM Db2 databases

Launch Db2 Version 11.5 databases in minutes and enable high availability with RDS Multi-AZ deployment

Bring your own IBM software licenses, supporting Standard and Advanced Editions

Supports transactional, mixed and analytics workloads, including Oracle compatibility

Overview of Amazon RDS for Db2

Easy to administer



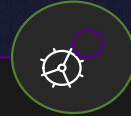
- Create database with few clicks in few mins
- No infrastructure provisioning, software installation, or patching
- Built-in monitoring

Performant and scalable



- Power your database with push-button compute scalability
- Auto scale your storage

Available and durable



- Achieve high availability with Amazon RDS Multi-AZ deployments
- Automated backup, snapshots, and failover

Secure and compliant



- Protect data with encryption at rest and in transit
- Achieve compliance with key industry compliance programs

Based on IDC Study-39% lower database operation costs

To begin with, a brief introduction of RDS.

- Amazon Relational Database Service (RDS) was built by AWS as a way to help customers reduce the complexity in supporting critical transactional applications, by making it easy to set up, operate, and scale a relational database in the cloud.
- RDS automates time-consuming administration tasks such as hardware provisioning, database setup, patching and backups, while providing cost-efficient and resizable capacity.
- RDS makes your databases available and durable by supporting options such as multi AZ data replication, automated backups, and snapshots.
- RDS makes your databases more performant and scalable by supporting scale compute and storage within just a few clicks with minimal downtime for your application
- Furthermore RDS makes your databases more secure and compliant by supporting data encryption at rest and in transit.

RDS is currently offered for six familiar database engines: MySQL, PostgreSQL, MariaDB, SQL Server, Oracle and Amazon Aurora (compatible with MySQL and PostgreSQL).

In a nutshell, RDS provides customers with Lower **Total cost of ownership**, easier management, so they can focus on the things that matter for their business and applications

Performant and scalable



Scale down to control costs

- As little as 2 vCPU, 2 GiB of RAM
- Stop an instance for up to 7 days



Scale compute to handle increased load

- Up to 128 vCPU and 1TB of RAM



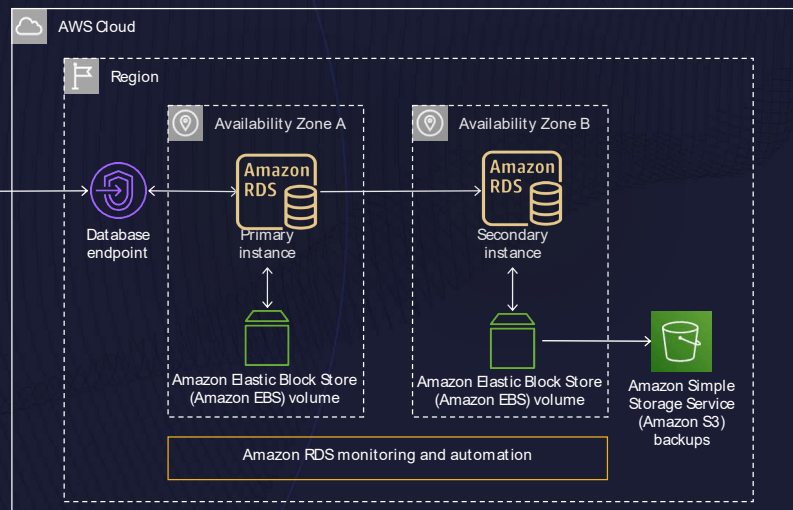
Scale storage for larger data sets

- Quickly scale EBS storage up to 64TB
- Up to 4,000 MB/s and 256,000 IOPS
- No downtime for storage scaling

You can scale your RDS database's compute and storage resources with only a few mouse clicks or an API call, often with no downtime. There are currently over 25 instance types you can choose from to find the best fit for your CPU, memory, and price requirements. There are a number of reasons you may want to scale your database instance up or down, including: scaling up to handle higher load, scaling down to preserve resources when you have a lower load, and scaling up and down to control costs if you have regular periods of high and low usage.

** Verify for latest size/type/iops

Available and durable

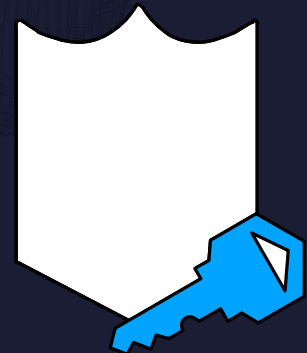


High availability with RDS Multi-AZ

- Automatic failover as quickly as 60 seconds with zero data loss and no manual intervention
- Protect database performance by avoiding I/O suspensions on primary during backup
- Enhanced durability with synchronous replication
- Increase availability by achieving fault tolerance in the event of an AZ or database instance failure.

Secure and compliant

- Network security with Amazon Virtual Private Cloud (VPC)
- Resource access permissions with AWS Identity and Access Management (IAM) provides resource-level role permission controls
- Data encryption at rest using AWS KMS and TLS v2 protection for data in transit
- Authenticate with Db2 local users and Amazon Managed Active Directory with Kerberos
- Certified with HIPAA, PCI, SOC, FEDRAMP and other standard programs.



RDS makes it easy to control network access to your database. RDS also lets you run your database instances in Amazon Virtual Private Cloud (Amazon VPC), which enables you to isolate your database instances and to connect to your existing IT infrastructure through an industry-standard encrypted IPsec VPN. Many RDS engine types offer encryption at rest and all engines support encryption in transit. RDS offers a wide range of compliance readiness including HIPAA eligibility.

<https://aws.amazon.com/rds/features/security/>

Use what you need, pay for what you use

RDS pricing model

- Flexibility to provision exactly what you need
- Only pay for what you use
- Storage can scale automatically
- Scale up and down compute as needed
- RDS decouples storage and compute, and they are charged individually

Bring Your Own Licenses (BYOL)

- Supports Db2 Standard and Advanced Editions
- Continue with Db2 on-premises licensing policies in RDS

Migrate synchronously to RDS for Db2 with minimal downtime

AWS Database Migration Service (DMS)

- Supports RDS for Db2 as target for synchronous migrations

Native Db2 migration options

- Streamline migrations from AIX/Windows using native tools for higher performance
- Faster database backup from Linux environments to S3 and restore them in RDS
- Mainframe modernization by exporting data and loading it directly to RDS

Demo-Time

Discover the power of AWS and IBM

22,000+

AWS certifications

19

Service validations
(ranked #1)

23

AWS Competencies

65+

Products on AWS
Marketplace

27+

SaaS offerings

Let's talk about IBM Db2...

11.5k+

Db2 customers globally

30+

years running the
world's mission critical
workloads

9/10

Largest auto
manufacturers

10/10

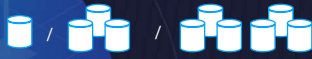
Largest banks on the
planet run Db2

76/100

Fortune 100¹ companies
run Db2

¹Based on Fortune's Top 100 Companies of 2022

IBM Db2 is the one database built to run the next generation of mission-critical workloads



Db2 database for low-latency transactional workloads

Single node or multi-node high availability (HA) deployments **available today** as fully managed service on **Amazon RDS**

Maximum scale for transactional workloads with Db2 pureScale, **available today** through **AWS Marketplace**



Db2 Warehouse for real-time analytics workloads

Massively scalable MPP architecture for your mission critical analytics

Fully managed service **available today** on **AWS Marketplace**

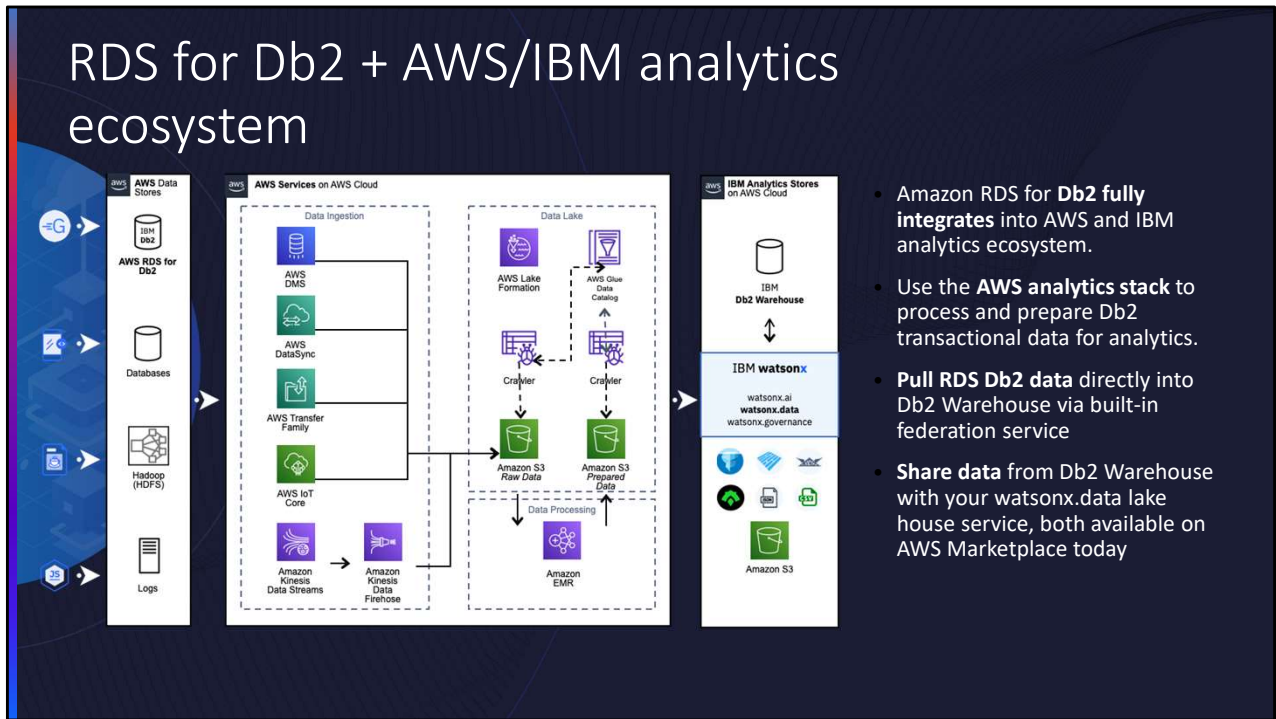
Amazon RDS for Db2

The IBM Db2 logo is displayed in white text on a blue square background. The text is arranged in two lines: "IBM" on the top line and "Db2" on the bottom line.

IBM
Db2

- IBM + AWS close engineering & product collaboration to ensure the **best possible customer experience**
- Db2 11.5.9 version released for Amazon RDS launch
- Numerous improvements to Db2 including:
 - Product updates to take advantage of AWS-native services
 - Performance enhancements for backup/restore to S3
 - Security enhancements that comply with rigorous IBM & AWS standards
- Joint migration tooling to ensure a smooth transition from on-premises to Amazon RDS
- Multi-year commitment to keep enhancing the platform

RDS for Db2 + AWS/IBM analytics ecosystem



- Amazon RDS for **Db2** fully integrates into AWS and IBM analytics ecosystem.
- Use the **AWS analytics stack** to process and prepare Db2 transactional data for analytics.
- **Pull RDS Db2 data** directly into Db2 Warehouse via built-in federation service
- **Share data** from Db2 Warehouse with your watsonx.data lake house service, both available on AWS Marketplace today

IBM applications on AWS with RDS for Db2

Through close collaboration with AWS, we're proud to certify several IBM apps as ready **RDS for Db2**

And many more coming soon, including Maximo, FileNet, Infosphere Data Replication.

This is an expanding list, stay tuned.

- **IBM OpenPages**
An integrated governance, risk, and compliance platform
- **IBM watsonx.data**
A brand-new fit-for-purpose data store built on an open data lakehouse architecture to scale AI workloads
- **IBM Cognos Analytics**
An integrated business intelligence platform
- **IBM Sterling Order Management**
Omnichannel order fulfillment platform built for sustainability

Partners supporting Amazon RDS for Db2

 **accenture**

Capgemini 

 cognizant


DBA
TOPGUN

Deloitte.



THE FILLMORE GROUP
Relational Database Solutions

Infosys[®]

kyndryl.

precisely

tcs

This is not a complete list. This list of partners is current as of November 29, 2023.

Key takeaways

- Simplify database management with Amazon RDS for Db2
- Run business critical transactional, operational, and analytical workloads in a single, fully managed Db2 database
- Connect to other AWS or IBM services, such as a data warehouse, to scale your analytics and ML/AI workloads
- Get started today - aws.amazon.com/rds/db2

RDS for Db2 Resources

- [AWS News Blog](#)
- [Service landing page](#)
- [Technical Documentation for RDS Db2](#)
- [Db2 Migration Tooling](#)

[AWS News Blog](#)

[Wiki](#) | [Wisdom](#)

[First call deck](#)

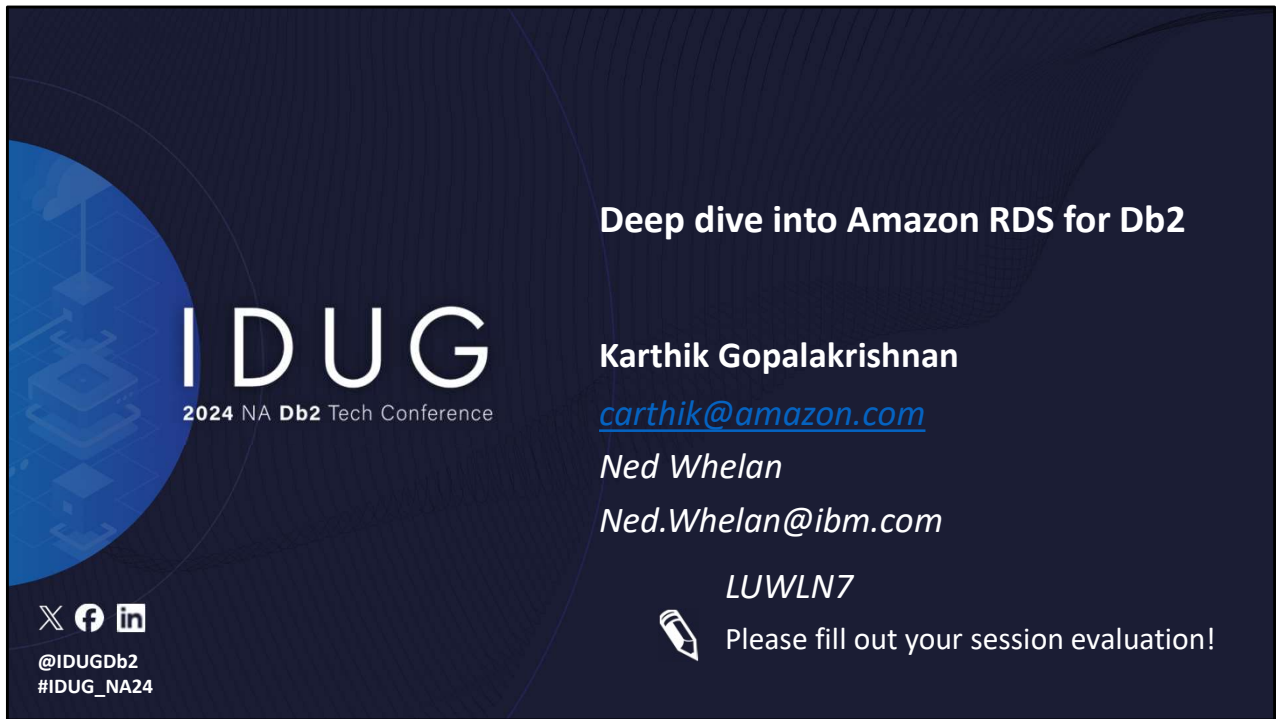
[Deep dive deck](#)

Join the [RDS for Db2 Slack channel](#) (internal)

[RDS for Db2 podcast episode](#)

[ProfileSW – RDS for Db2 customer article](#)

We will provide the link to these resources in the description of the video




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 Please fill out your session evaluation!


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