
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

DAT220

Thomson Reuters and BMC Software's database modernization vision with DMA

Bart Matzek
Director, Platform Engineering
Thomson Reuters

Alvin Hom
Solutions Architect
BMC Software

Doug Booth
GTM Biz Dev Manager, DMA
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Agenda

- Learn details on Amazon Database Migration Accelerator (DMA)
- Learn from Thomson Reuters on their migration journey with DMA Fixed Price Services
- Learn from BMC issues and outcomes on their journey and how DMA accelerated through complimentary advisory and automation services

re:Invent is all about learning

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Amazon Database Migration Accelerator (DMA)

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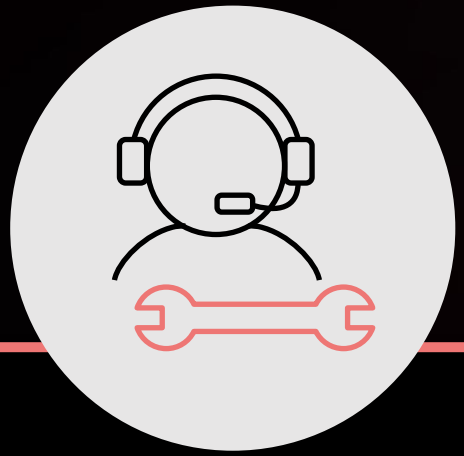
Database Migration Accelerator (DMA)

Our mission is to accelerate the successful migration of our customers' database and analytics workloads to AWS

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Database Migration Accelerator (DMA)
Customer needs and solutions





Customer need

Customers are often faced with the need to migrate their databases and analytics to the cloud and are confronted with the risk of unknown challenges, lack of resources, and multiple patterns in the migration which can increase time and cost. The array of migration options can be confusing, causing customers to select paths which may not be the best for them.



The solution

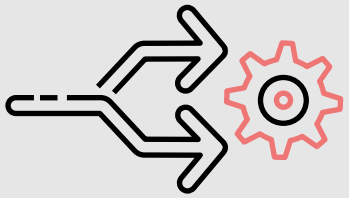
The Database Migration Accelerator Advisory Service was created to guide customers in accelerating and de-risking database and analytics migrations to AWS. A customer engaging with DMA gets the benefit of deep database migration expertise with a rapid turnaround and complimentary assessment designed to identify the best customer path.

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DMA Advisory Service





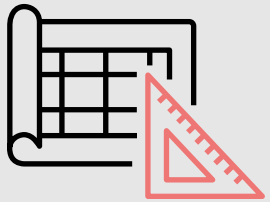
WHO?

- Customer DB/APP teams
- DMA team advisory architect
- DMA databases and analytics experts
- Account solution architect and database specialists



WHAT?

- Evaluate schema
- Evaluate data
- Evaluate application
- Evaluate functional and non-functional requirements
- Evaluate team capabilities



HOW?

- Introductory meeting
- Data collection and assessment
- Migration Solution Document (MSD)
- MSD review and time to migrate!

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DMA Advisory Service



- Migrating but don’t know where to start
- To reduce or eliminate risk to migration
- Emergent business requirements
- New MAP or OLA

WHEN?



- Customer requires a migration strategy
- Before licensing renewals
- Data center exits
- Strategic goals to move to the cloud

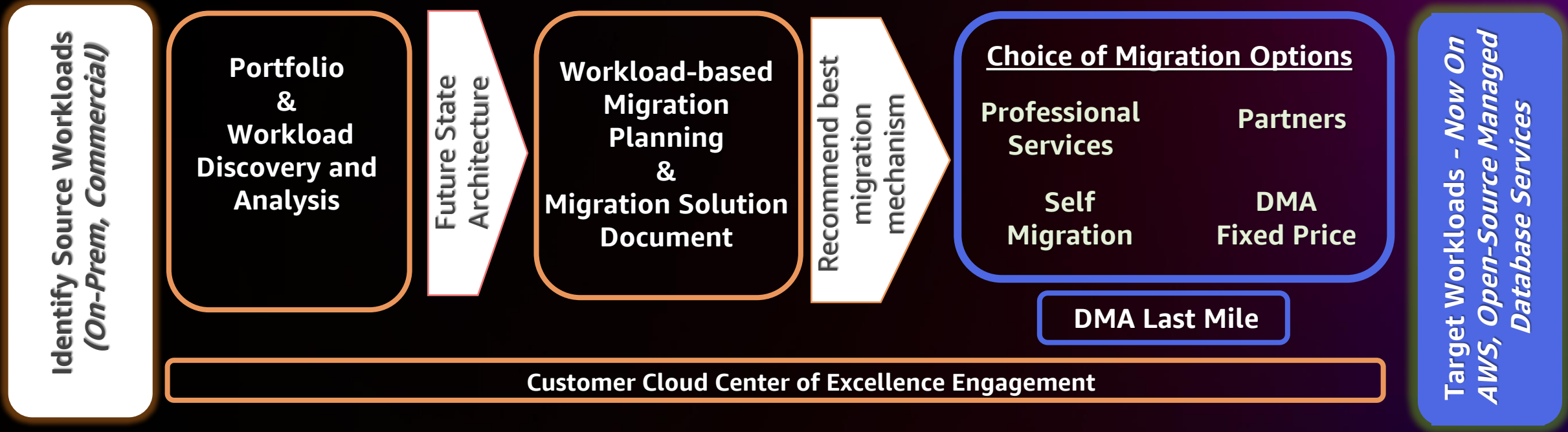
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DMA migration lifecycle



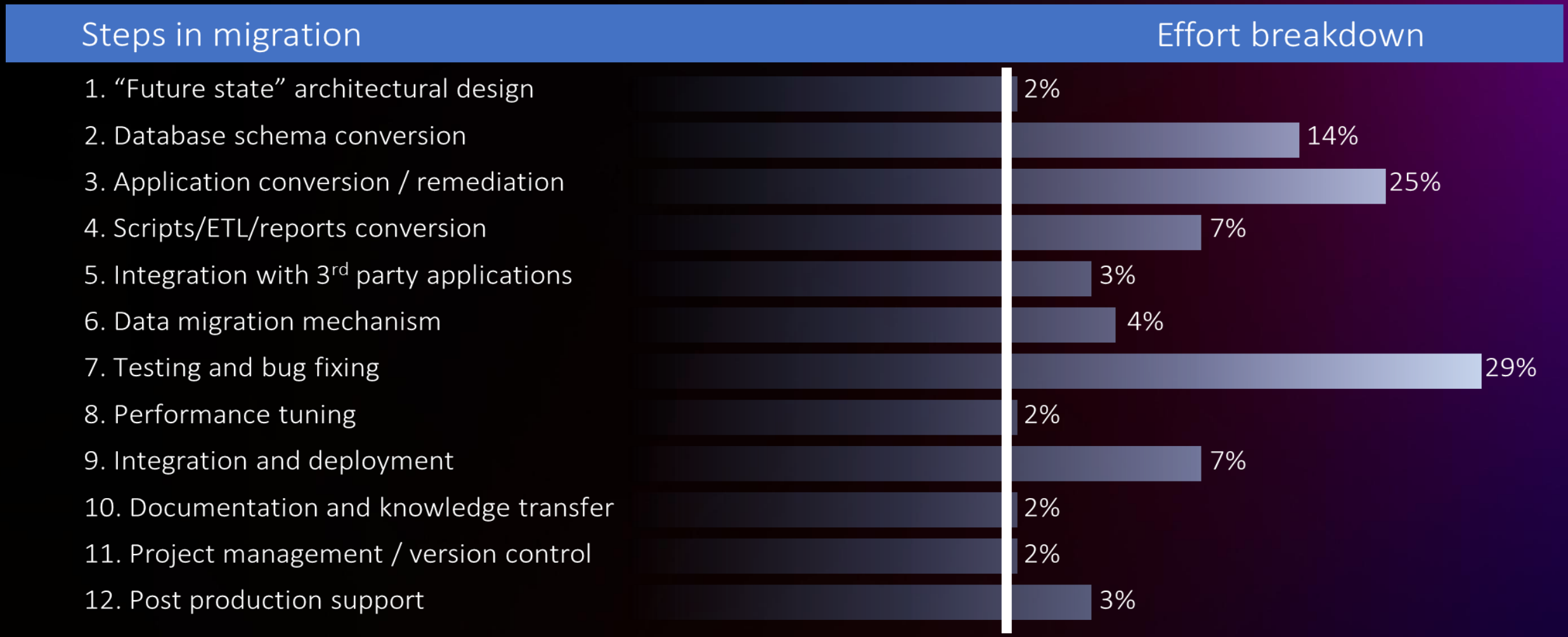
Customer migration journey with DMA



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DMA migration steps and effort breakdown





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Two customers speaking on DMA



- Thomson Reuters – Bart Matzek, Director Platform Engineering, on migration via DMA Fixed Price Migrations

- BMC Software – Alvin Hom, Solution Architect, on DMA Advisory only complimentary services where they leveraged automation to move faster

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Thomson Reuters

Bart Matzek, Sr. Director Platform Engineering

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Thomson Reuters

Migration at scale – the role of the Database Migration Accelerator

~$6B in annual revenue



450K+
Customers



100
Countries

THOMSON REUTERS®



Legal Professionals



Corporates



Tax & Accounting



Reuters News

Trusted by the Market

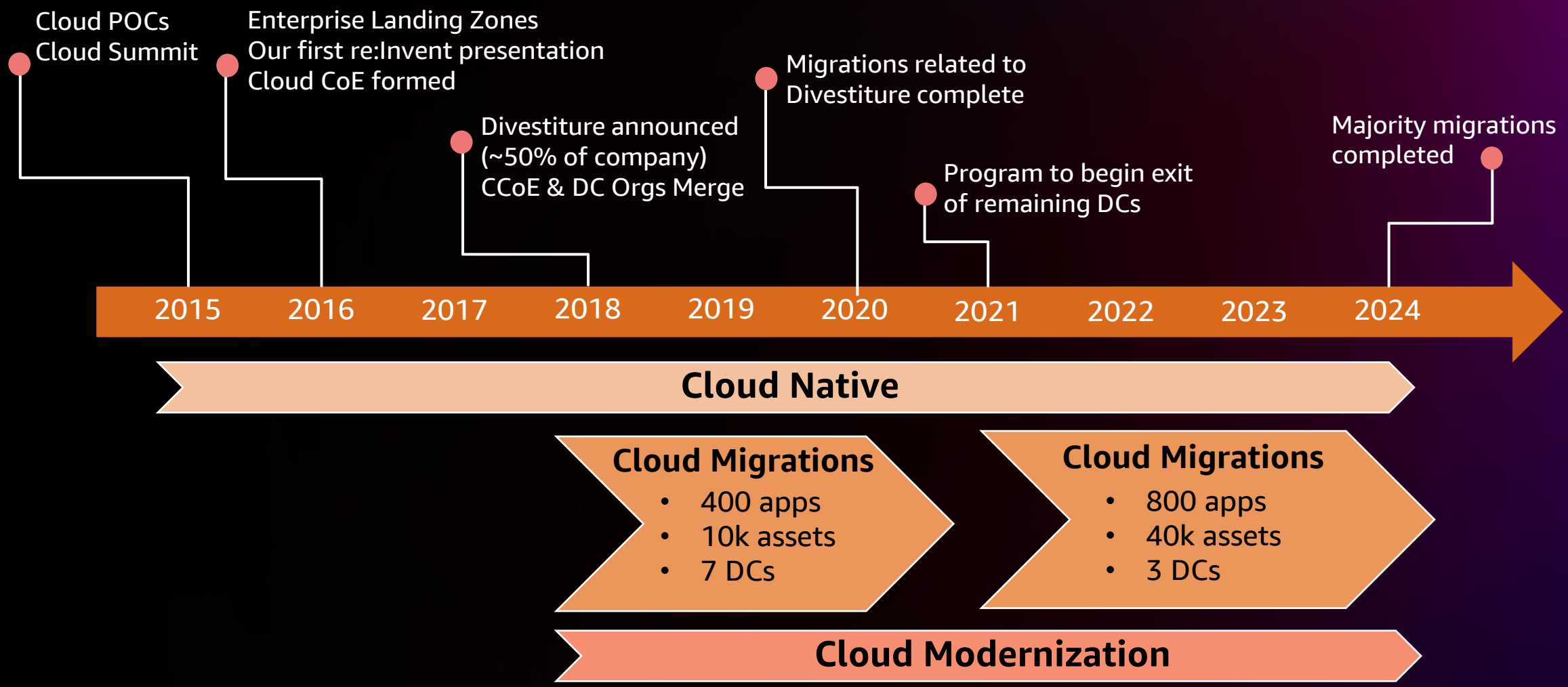
One of the world's leading sources of intelligent legal, tax, and accounting information for businesses and government, operating in over 100 countries

The company's "Big 3" segments, Legal, Corporates, and Tax Professionals account for ~80% of total revenues, with reported organic revenue growth of 6%

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Our cloud journey



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Thomson Reuters

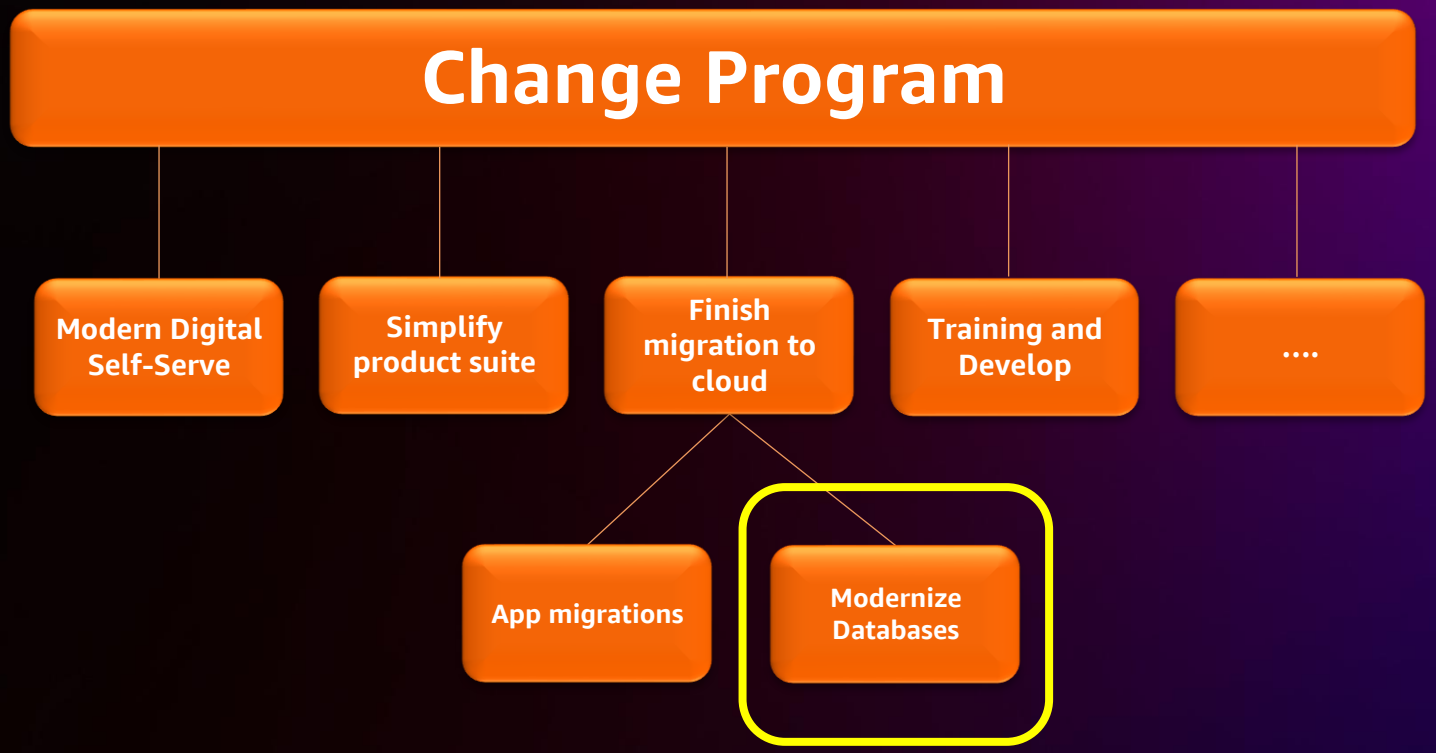
Change Program Objectives

1) Reimagine customer experience

2) Optimize TR products and portfolio

3) Simplify operation and reduce expenses

4) Create an inclusive culture of world class talent



DB Solutions: Challenges

Thomson Reuters wanted to build a database migration practice and develop cloud database skills within the teams to accelerate migrations

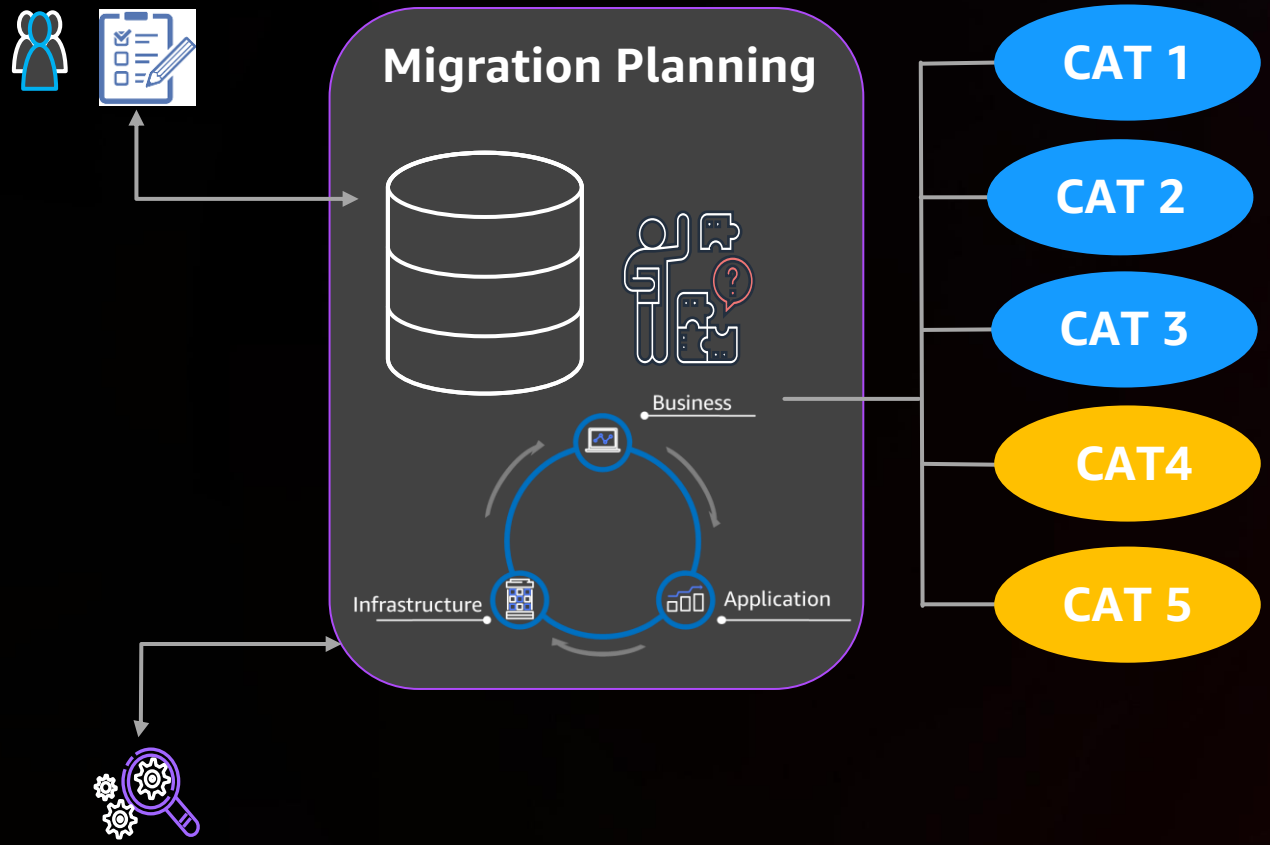
Variables (or challenges) with these migrations:

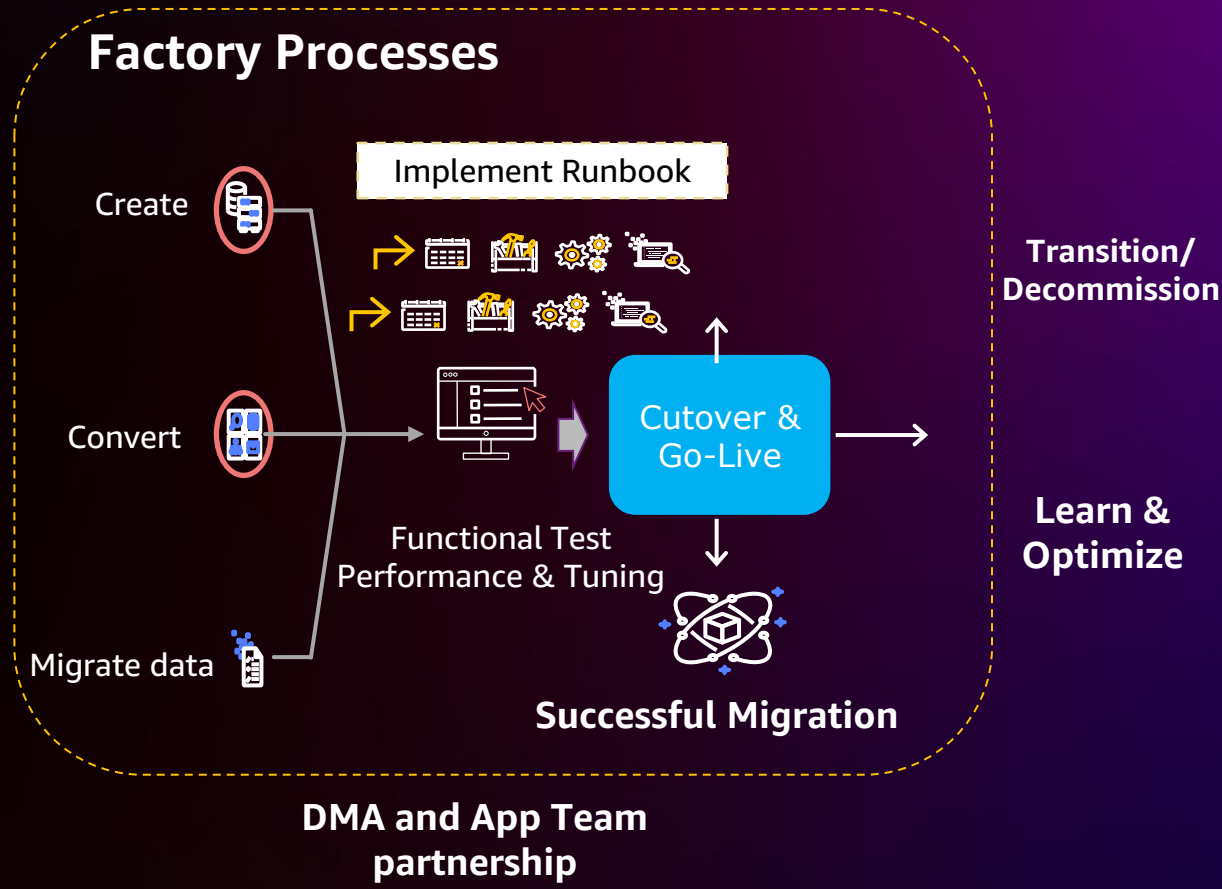
- Postgres and general open-source knowledge within the app teams
- Experience within TR on heterogenous database migrations
- Legacy app source code
- Application domain knowledge
- Application testing capabilities/automation
- Need to learn open-source operations
- Activity levels of the databases
- Training and upskilling engineering and operations

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TR Migration Process with DMA

Discovery | Migration Planning | Migration Execution | Cutover and Operations





DMA and App Team partnership

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DMA at TR: Migrations



Positioned DMA value for TR

- Initial apps were scanned in 1 week
- Pilot scope SOW and paid a fixed fee for Cat 1 DB

Delivered first DMA workload within 8 Weeks

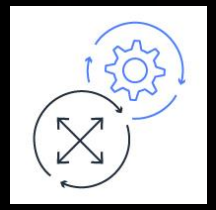
Decreased risk, time, and effort

Begin DMA@Scale

- SCT Scans for 85 candidate Apps
- 1 application launched
- 11 DMA complete
- 3 in Process

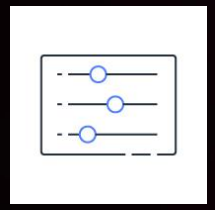
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DMA at TR: Operations



Data Migration /Data Validation

- Design of data migration mechanism
- Implementation of data migration mechanism
- Validation of data migration mechanism
- Perform data migration on redacted data set
- Validation of data migration



Migration Testing

- Functional Testing
  - Setup of environment
  - Creating a testing architecture
  - Functional test plan creation
  - Running of tests
  - Remediation of issues
- Integration Testing
  - Setup of environment
  - Creating a testing architecture
  - Plan creation
  - Running of tests
  - Remediation of issues



Production Cutover Advisory

- Wave planning and dependency discovery
- Develop cutover runbook
- Cutover runbook review with stakeholders
- Dry runs
- Cutover readiness review
- Pre-cutover activity window
- Smoke test
- Migration activity window
- Go/No Go decision
  - Rollback if No Go
  - Roll back activities
    - reverse migration
    - cutover to old system
- Post production deployment support

** Some services only available in select Local Zones*

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Lessons learned working with DMA

- Define and Share your process
- Engage the right experts on your teams
- Understand your infrastructure limitations and be ready to act
- Have your functional, performance, and scale testing teams ready
- Trust the process and your DMA partners

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Thomson Reuters outcomes and benefits

- Developed key relationships with AWS – data migrations, tools, performance & tuning
- Created a “black box” DB migration factory with DMA
- DMA converted 11 databases along with application code
- Acceleration of a key application migration to AWS – 10K schemas in 45 days
- Ensured our market leading application will perform to expectations
- Using DMA has allowed our subject-matter experts to focus on their priorities

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the answer company™

THOMSON REUTERS®

Thank you Bart and Thomson Reuters

Great story on fixed-price, hands-on-keyboard migrations, lessons learned, and outcomes observed – 10K schemas in 45 days is a great example of migration acceleration

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BMC Helix SaaS digital transformation

From database management to database as a service

Alvin Hom

Solutions Architect
BMC Software

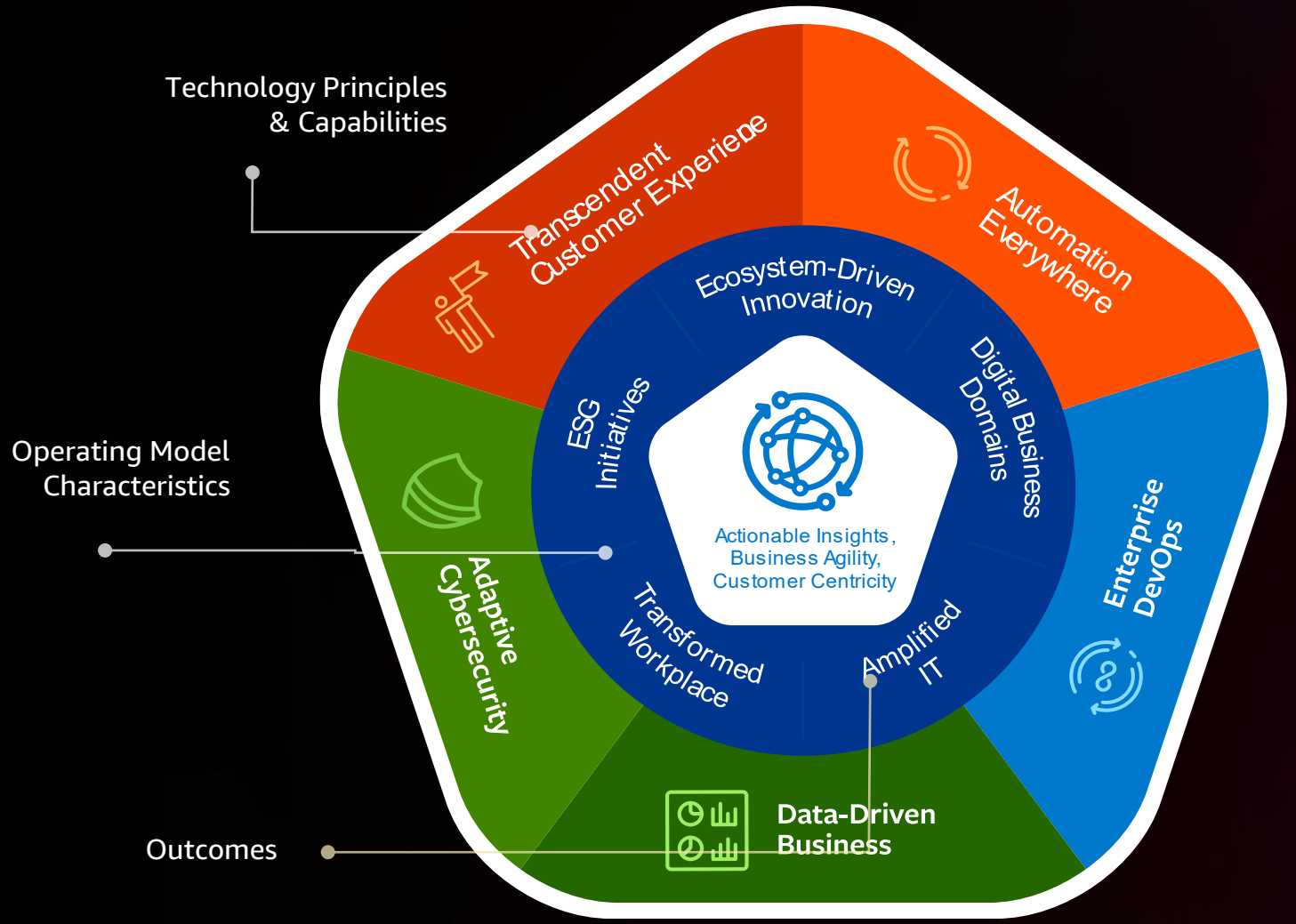
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Who is BMC Software and what do we do?

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BMC Software

Run and reinvent your business to become an autonomous digital enterprise



10,000+
Customers



131
Countries

86%
Forbes Global 50

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What was our challenge?

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Helix Rapid Growth Challenges

Business Challenges

- Predictable Performance for Customer Experience
- Costs

Operational Challenges

- 60% of IT Operations time spent on incident remediation
- Outages require manual intervention and take a minimum of 1 hour
- Predictable performance and stability was challenging to provide

Database Challenges

~7,000 unique production instances

Infrastructure was static and costs were high

~300 Work Orders a day, incidents, and never-ending CRQs per week

10,000 SQL monitoring alerts per day – alert fatigue & lost in emails folders

High variation caused challenges meeting RPO and RTO requirements

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Business Objectives

Improve CX | Automate IT Ops | Reduce Cost

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How did we solve it?

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BMC Uses Amazon Database Migration Accelerator (DMA)

- BMC leveraged DMA to accelerate Database modernization
- DMA Advisory Services helped build automation to operate a fleet of databases
- BMC Software needed to performance validation

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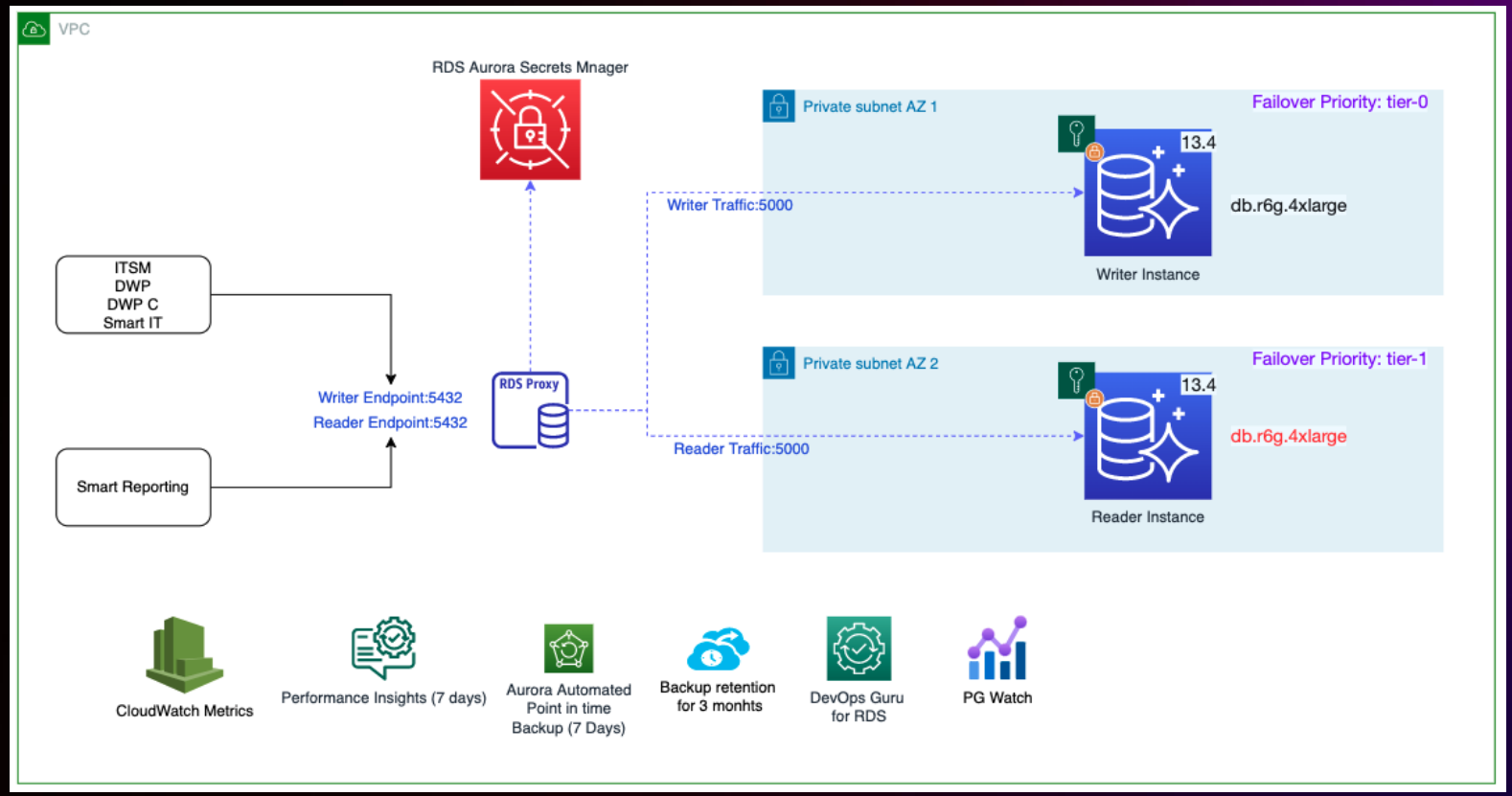
Amazon Aurora PostgreSQL-Compatible Edition Architecture

BMC and DMA Built Automation

Provisioning Automation:

- Aurora Provisioned Clusters
- Amazon RDS Proxy
- Automated Deployments through Terraform

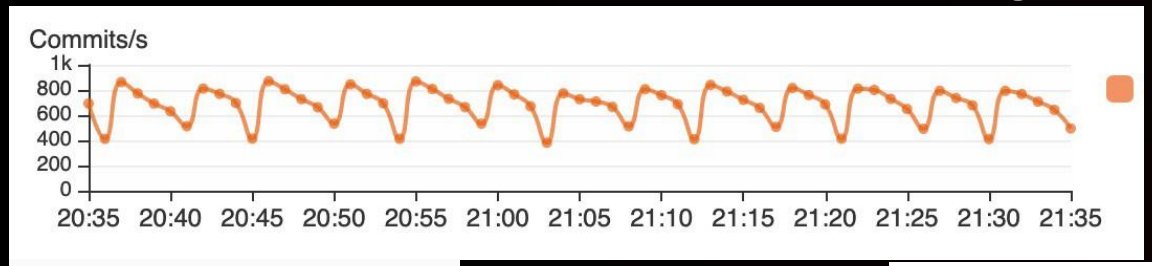
Aurora Automatic Failover



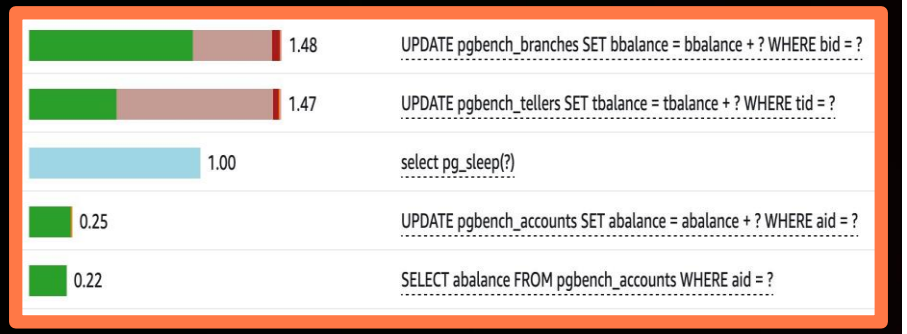
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Amazon RDS Performance Insights

BMC Software uses Amazon RDS Performance Insights to investigate Amazon Aurora performance issues reducing complexity for the operations team

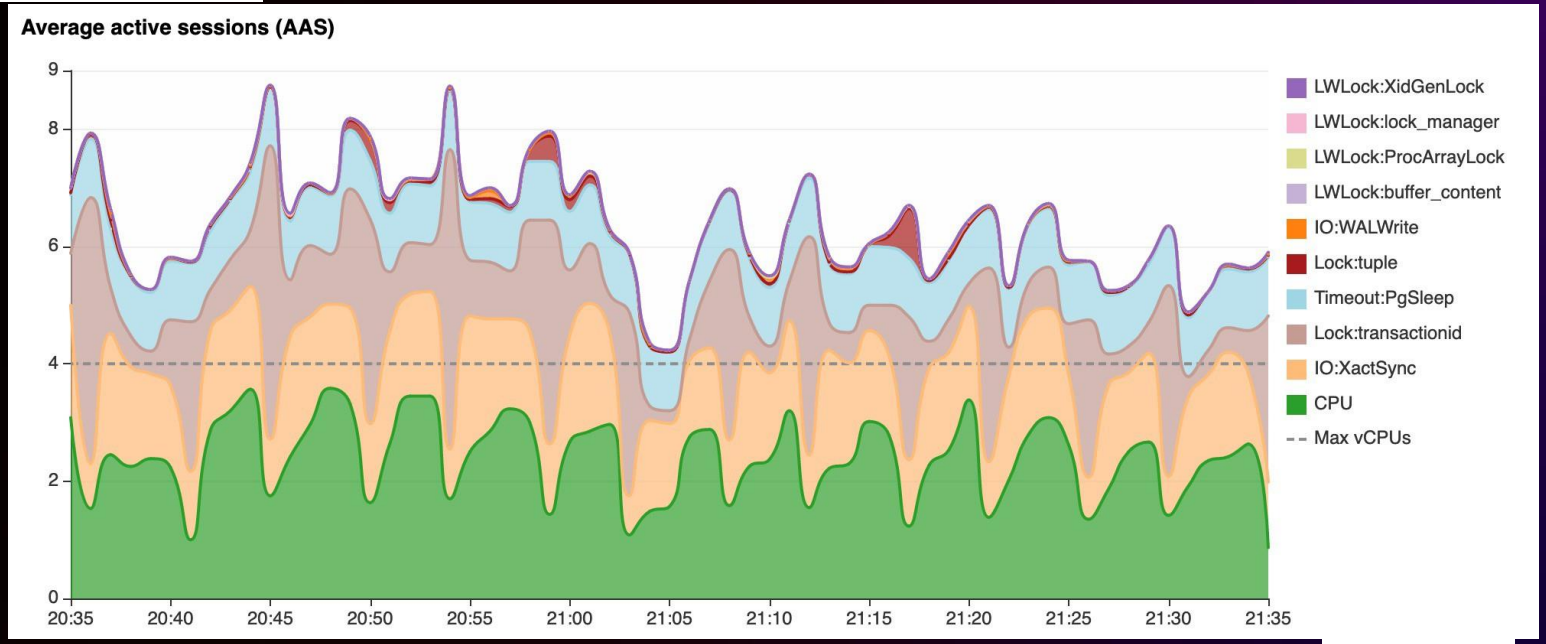


Counter metrics



Database load

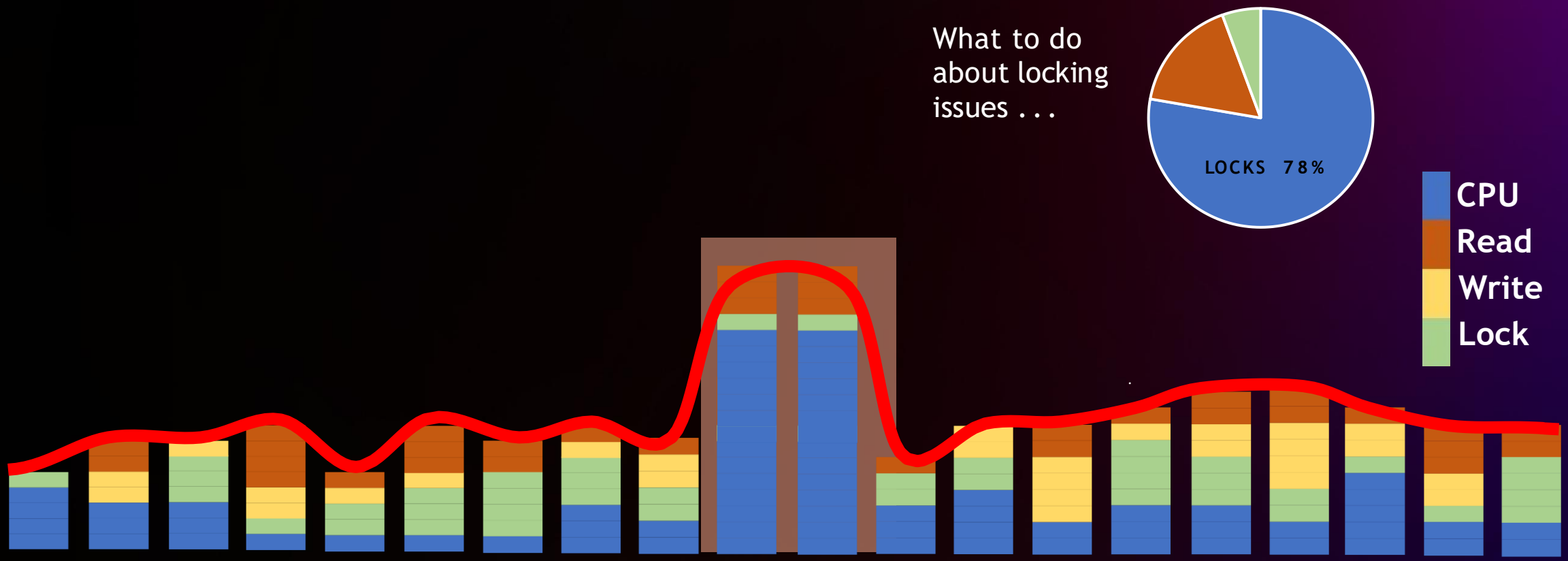
Current activity measured in average active sessions (AAS)



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Amazon DevOps Guru for Aurora

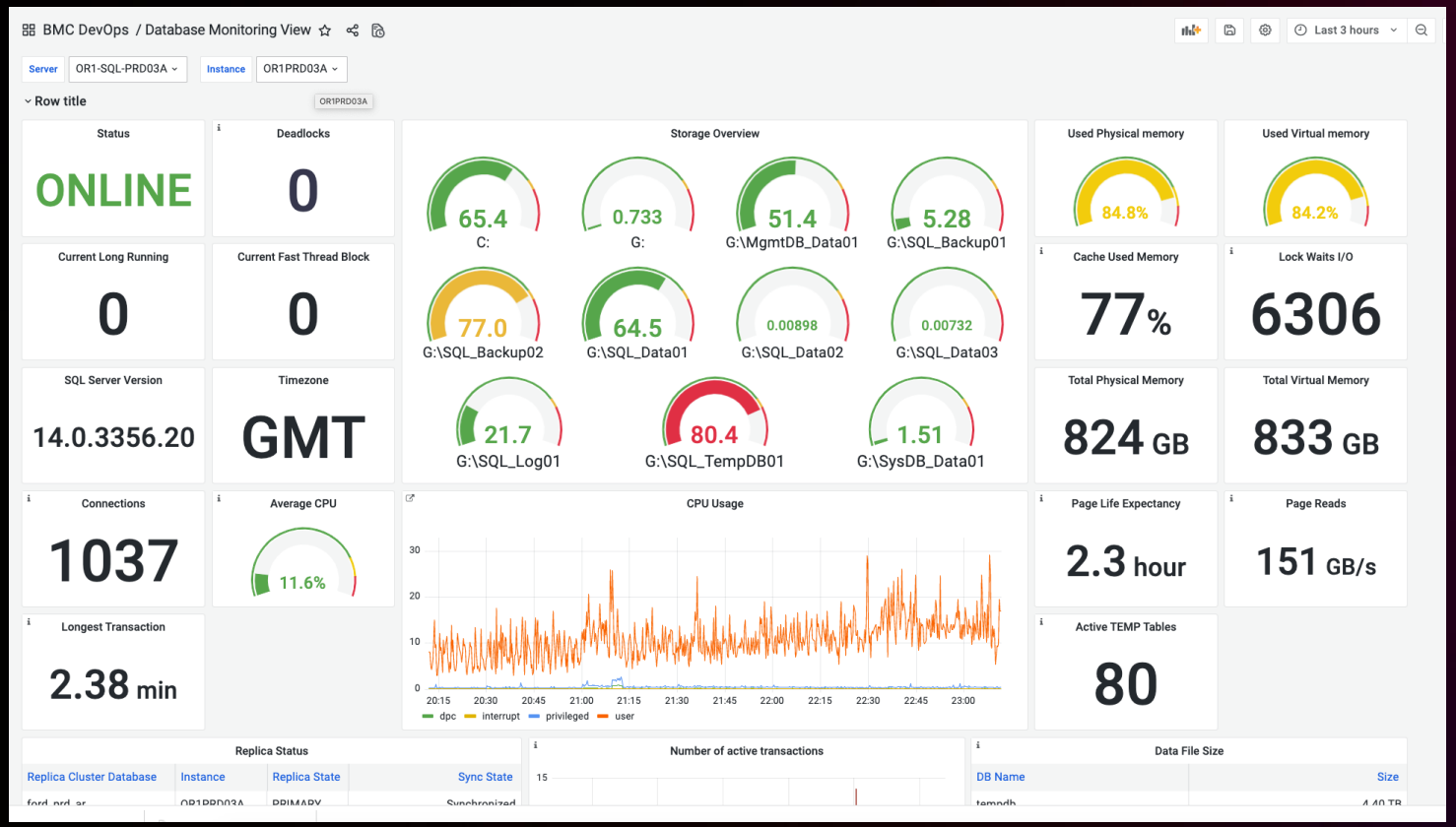
BMC Software uses Amazon DevOps Guru to automatically detects and diagnoses database performance issues. DevOps Guru uses ML techniques to provide recommendations to resolve bottlenecks in minutes rather than days



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DBA Monitoring integrated with SRE

BMC Software streamlined alerts into BMC SRE dashboard providing context insights beyond metrics and thresholds. This replaced the email alerts, eliminating 10K email alerts per day.



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What was the result?

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SaaS Helix DBaaS

NO DBA INVOLVEMENT

	Outcomes on Aurora
Rapid Provisioning	2 Days to less than 30 Minutes
High Availability & DR	Manual (up to an hour) to Automated failover in matter of seconds
Data Protection	Zero data loss
Quality of Service	Improved customer performance & reduced customer tickets
Compliance	Out-of-box encryption and key management
Monitoring & Remediation	Health checks, integrated monitoring, with performance insights reducing MTTR from hour to minutes

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Business Outcomes: Conclusion

Improve CX
by delivering increased availability and performance

Automate IT Ops
BMC reduced operational labor by 60–70%

Reduce Cost
Aurora delivered 40% cost savings

DMA Accelerated DB modernization by 1 year

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Thank you BMC

Great story on no-charge, advisory-only DMA services accelerating your migrations to production

Last we have one call to action.

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Additional resources

S&P Dow Jones Indices' AWS journey to Amazon Aurora
DAT319

Proven playbook for migrating from SQL Server to Amazon Aurora
DAT308

Migrate relational databases to Amazon RDS or Aurora using AWS DMS & SCT
DAT309

Migrating sensitive Oracle workloads to AWS
WPS301

What's new with database migrations
DAT218

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Call to Action

Work with your AWS account team to schedule an initial meeting with DMA and nominate 1–5 workloads (or the entire Database Portfolio that requires migration), and let's get started.

We look forward to meeting you soon to both accelerate and de-risk your database migrations to AWS.

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Thank you!

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Director, Platform Engineering
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Alvin Hom
Solutions Architect
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Doug Booth
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doubooth@amazon.com



Please complete the session survey in the **mobile app**

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