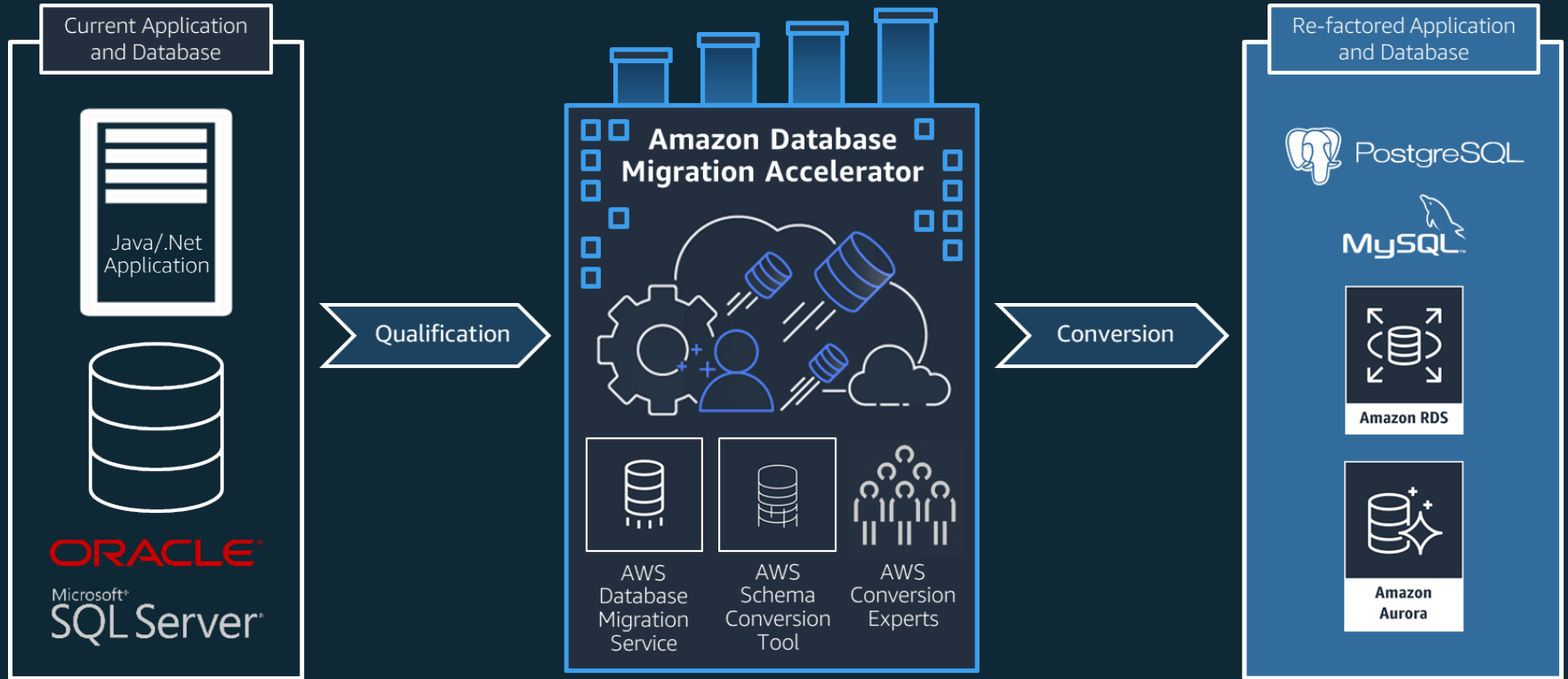


# Amazon Database Migration Accelerator

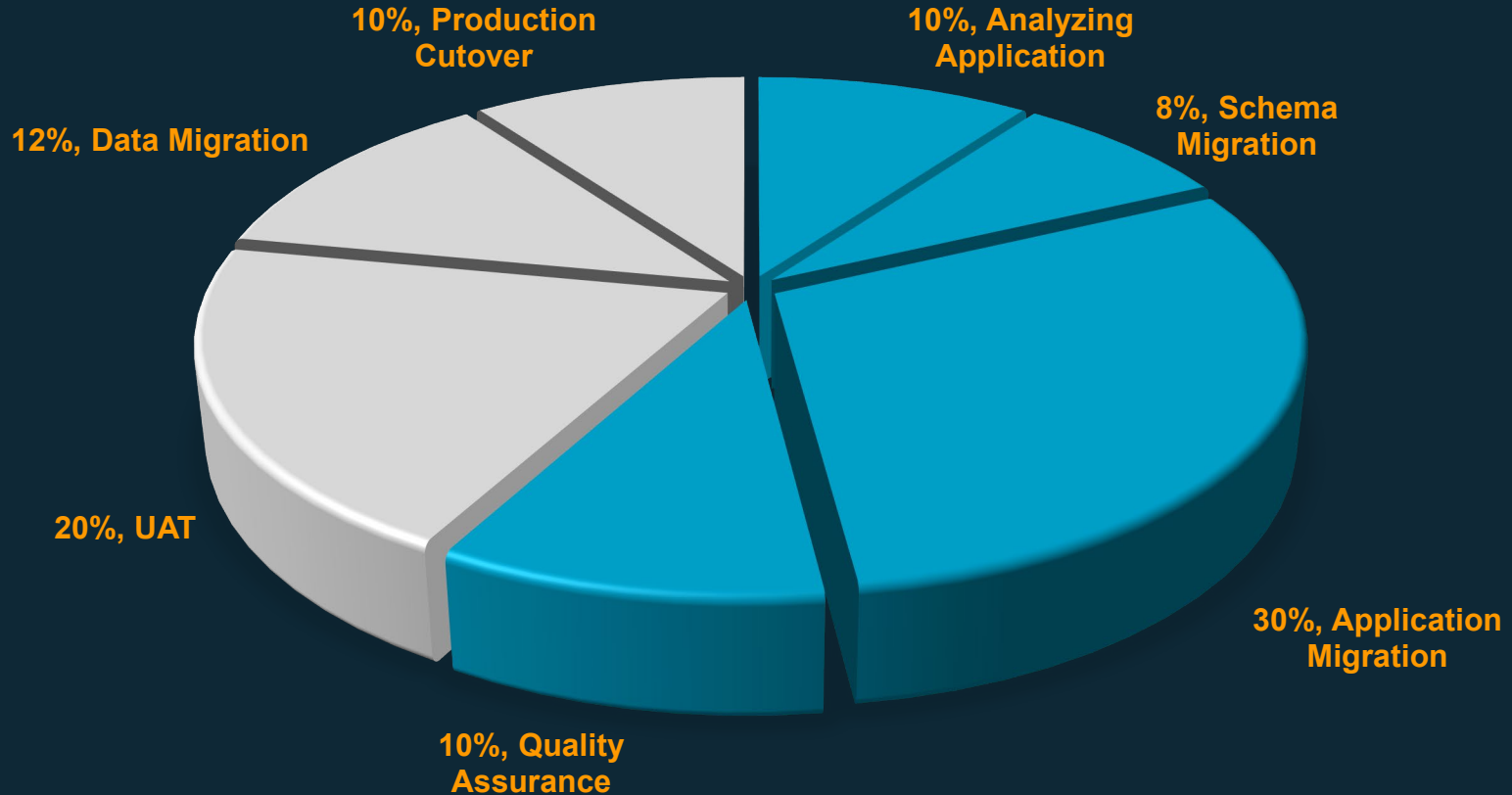
Migrate your applications to run on PostgreSQL or MySQL.

John Winford, Database Services  
Kapil Kapoor, Professional Services

# What is Amazon DMA?



# What is involved in migrating an application?



# Amazon DMA process

Assessment and  
Qualification

Re-factoring

Quality Assurance

## Customer Provides

- Access to application code
- Source databases
- Non-production environment in Amazon EC2
- Acceptance test criteria



Decreased risk, time,  
and effort.

## Amazon DMA Delivers

- Re-factored application and database to deploy in a non-production environment
- Validated test cases
- Add-ons from AWS Professional Services and Training & Certification options are available as needed

# Assessment and Qualification






Assessment and Qualification

Re-factoring

Quality Assurance

- There are 3 components to assessing migration complexity
  - Application architecture,
  - Application design patterns and code, and
  - Database design

AWS uses a 5-point grading system to gauge migration complexity with WQF 1 being the simplest to migrate and WQF 5 being the hardest.

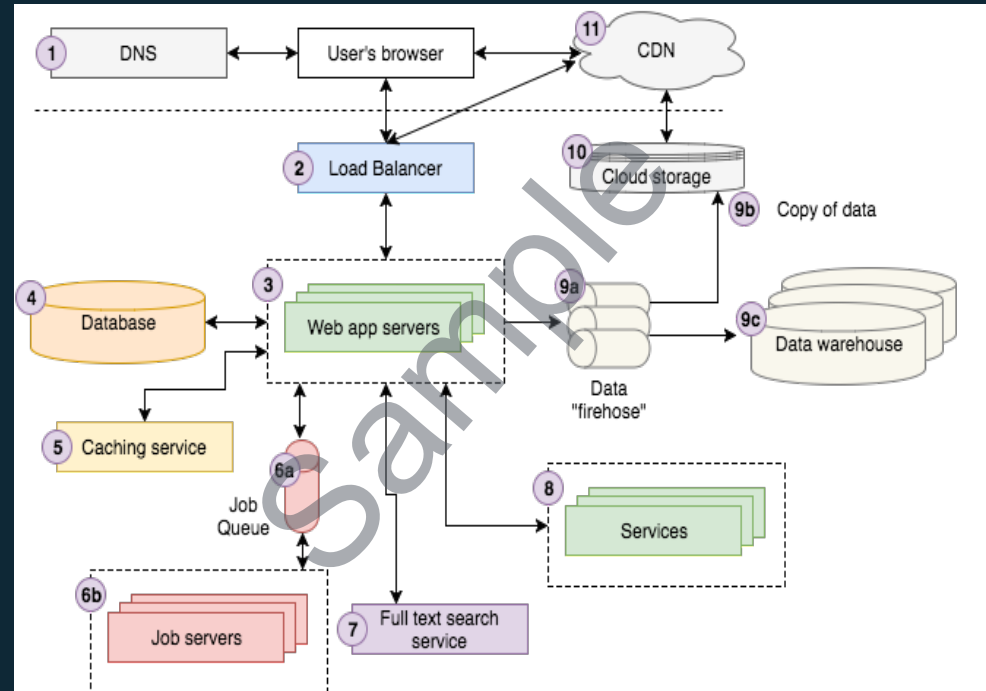
	Category 1	ODBC/JBDC workloads
	Category 2	Light, proprietary feature workloads
	Category 3	Heavy, proprietary feature workloads
	Category 4	Engine-specific workloads
	Category 5	Non-portable, high-risk or lift-and-shift

## Assessment and Qualification

## Re-factoring

## Quality Assurance

- Application architecture refers to the assembly of the application including the use of load balancers, reverse proxies, application hosts, database read replicas, and their replication mechanisms.
- Application architecture template has to be completed by the customer to begin the assessment.



## Assessment and Qualification

## Re-factoring

## Quality Assurance

- Application design pattern refers to the use of application frameworks such as SPRING, Spring MVC, Hibernate, .NET and middleware applications.
- AWS Schema Conversion Tool (SCT) analyzes the application code and summarizes the migration complexity of the application code. It also identifies code changes required to make the application work with PostgreSQL or MySQL databases.





## Assessment and Qualification

## Re-factoring

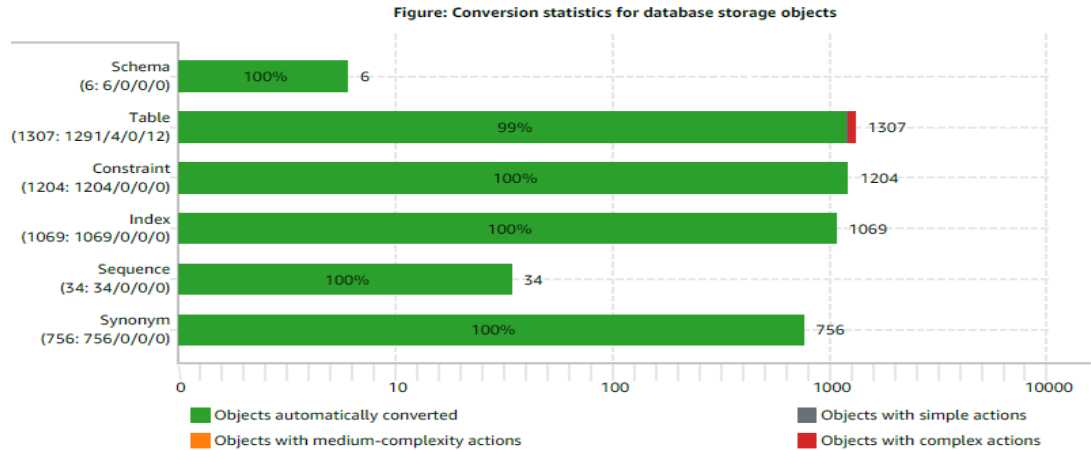
## Quality Assurance

- The database design refers to the complexity and volume of the database objects including schemas, indexes, stored procedures, and triggers.
- AWS SCT can also analyze these database objects to identify compatibility issues and recommends remedial action.

### Database objects with conversion actions for Amazon RDS for PostgreSQL

Of the total 4,376 database storage object(s) and 63 database code object(s) in the source database, we identified 4,364 (99.7%) database storage object(s) and 50 (79%) database code object(s) that can be converted to Amazon RDS for PostgreSQL automatically or with minimal changes.

13 (21%) database code object(s) require 14 complex user action(s) to complete the conversion.



# Re-factoring

Assessment and  
Qualification

Re-factoring

Quality Assurance

- There are 2 key major steps to re-factoring an application
  - Database object conversion
  - Application code conversion
- Both start with analyzing the AWS SCT report and identifying compatibility issues and the recommended remedial actions.
- A DMA engineer will evaluate these reports, identify potential improvements, and alternative remedies to the incompatibility.

# Quality Assurance

Assessment and  
Qualification

Re-factoring

Quality Assurance

- The DMA team loads representative dataset into the database for testing. This could be a snapshot of the database or a deliberately chosen set of data for testing.
- The DMA team runs tests against this data to ensure that all customer-provided test cases are completed and function as expected.
- The DMA team produces a report documenting the changes made to the application and the database, and a compilation of executed test cases for future reference.

# Next steps – DMA+

# Beyond DMA (DMA+)

- After the re-factoring and QA is complete, the customer may request for assistance during production cutover and data migration. For this, we offer DMA+.
- DMA+ offers a limited scope engagement to help with
  - Full data conversion
  - UAT (User Acceptance Testing)
  - Production cutover

# Thank you!