
AWS
re:Invent

EMB009

Introducing Babelfish for PostgreSQL

Tobias Ternström

Director, Product Management, Amazon Aurora and Amazon RDS

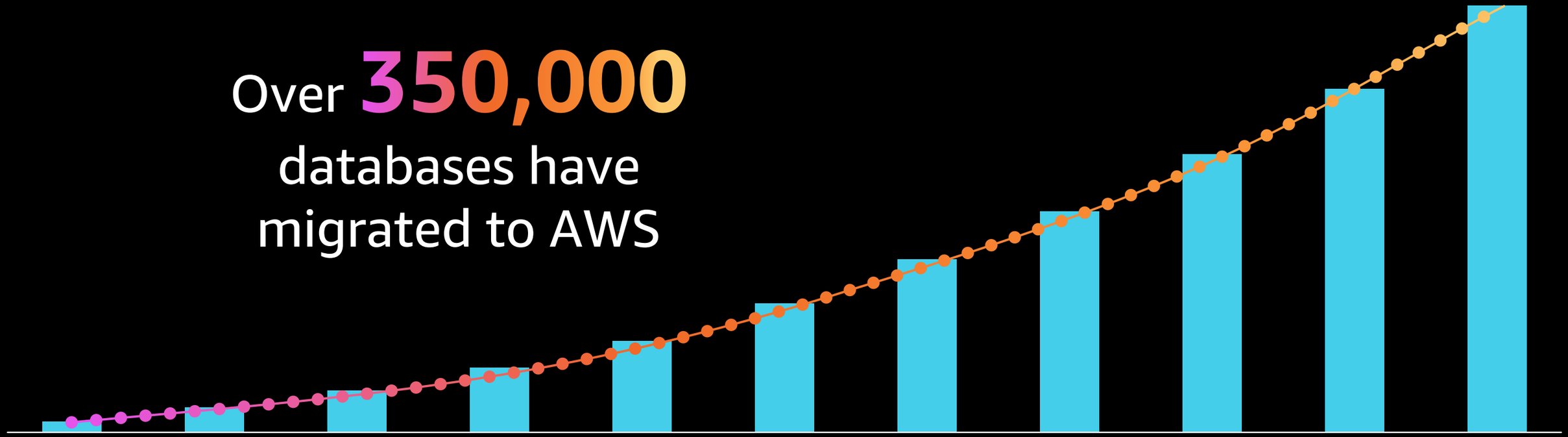
Amazon Web Services

AWS re:Invent

© 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Databases: Moving to the cloud

Over **350,000**
databases have
migrated to AWS



VA | U.S. Department of Veterans Affairs

SAMSUNG

verizon

Expedia

DOW JONES

Motivations for migrating

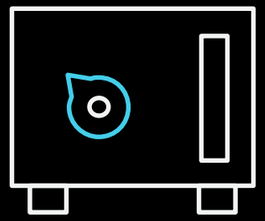
BREAK FREE FROM LEGACY DATABASES



Costly



Proprietary



Lock-in



Punitive licensing



You’ve got mail

Challenges in migrating from commercial to open source

Application basics

```
--example T-SQL application syntax

CREATE TABLE dbo.Products
   (ProductID INT PRIMARY KEY NOT NULL,
   ProductName VARCHAR(12) NULL,
   Price MONEY NULL)
```

ProductID	ProductName	Price
1	Clamp	12.8182

Application correctness

```
--example T-SQL application syntax

SELECT ProductID, ProductName, Price
   FROM dbo.Products
   WHERE Price < 30
```

ProductID	ProductName	Price
1	Clamp	$12.8182

```
--example PGSQL application syntax

SELECT ProductID, ProductName, Price
   FROM Products
   WHERE Price < 30
```

ProductID	ProductName	Price
1	Clamp	$12.82

Imagine if you could . . .

Introducing Babelfish for Aurora PostgreSQL

NEW

PREVIEW

Run SQL Server applications on PostgreSQL with little to no code changes

Keep existing queries



Translation layer enables Aurora PostgreSQL to understand Microsoft SQL Server's proprietary T-SQL

Accelerate migrations



Lower risk and complete migrations faster, saving you months to years of work

Freedom to innovate



Run T-SQL code side-by-side with new open source functionality and continue developing with familiar tools

Babelfish for PostgreSQL (Open-Source Project)

NEW

PREVIEW

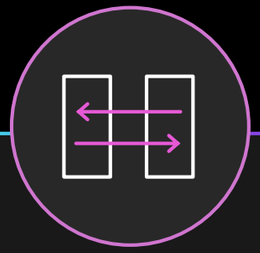
Coming in 2021, an open-source project for Babelfish source code

Customize and add new features



Contribute to help steer the direction of Babelfish

Apache 2.0 license



Use it for any purpose, innovate and distribute your modifications with confidence

Available on GitHub in 2021



Is community-driven and provides transparency into the feature roadmap

Babelfish for PostgreSQL design tenets

GUIDING PRINCIPLES



No compromises on correctness

Database calls either work or return an error



Wire protocol compatibility

Applications work without changing database drivers



Interoperability

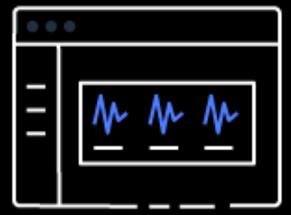
Use PostgreSQL functionality from T-SQL and
T-SQL functionality from PostgreSQL code

Development model for Babelfish

HOW DO I ADD NEW FUNCTIONALITY IN MY MIGRATED APPLICATIONS?



Develop new functionality in T-SQL using SQL Server database drivers



Develop new functionality in PostgreSQL using PostgreSQL database drivers



Develop new functionality in PostgreSQL and call from T-SQL using SQL Server database drivers

What about …

SQL SERVER-SPECIFIC FEATURES?

- Triggers and Stored Procedures?
- Cursors?
- Nested transaction?
- Table Valued Functions?
- Data types (money, sql_variant)?

Demo



AWS re:Invent

© 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Thank you!

Tobias Ternström

@TobiasSQL

© 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved.



Please complete the session survey

AWS re:Invent

© 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved.