

EDB DAYS · TRACK 02

The Migration Blueprint

to EDB Postgres

Ajit Gadge · Director, Pioneer Engineering Team · September 2026

SPEAKER INTRODUCTION

Ajit Gadge

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25+ Years of Leadership

Accomplished IT executive, strategist, advisor, and evangelist across executive, technical, and architectural leadership positions.

Cross-Industry Advisor

Advises BFSI, Telcos, Retail, and Enterprise customers on their open-source databases, analytics, and AI strategy and technology deployments.

Academic Foundation

Engineering degree (Computer Science) from Mumbai University and a PG in Fintech Technologies from NUS (National University of Singapore).

Certified Practitioner

Completed several technology certifications, including TOGAF.

Agenda

1 Why migrate from Oracle?

2 Why EDB for Oracle Migration?

3 EDB Migration Framework (ACTIONS)

4 Oracle Compatibility Demo

5 Breaking Cloud Locks

6 EDB AI Agent Migration Demo

7 Swordfish- Next Gen Migration

8 Summary & Q & A

SECTION 01

Why Migrate from Oracle

Your Oracle Crossroads

App1 runs on Oracle today — here's what that's costing you.



- **High TCO trap** High licensing costs. Restrictive, complicated contracts.
- **Innovation bottlenecks** Legacy tech blocks cloud, analytics, and AI adoption.
- **Extensive app refactoring** Migration tools rarely interoperate — most rewrite the app.
- **Zero-risk migration** Migrate schema and data from Oracle in a few weeks or less. Minimised downtime and disruption.
- **Less assembly required** Reduce app rewriting by up to 80%. No disturbance to teams or business continuity.
- **Modernize & Agile platform** High availability across any clouds, all in one platform. Freedom to explore new data projects.
- **Transparent TCO** Save up to 80% of total cost vs. Oracle licensing.

Your migration. Your timeline. Your control.

SECTION 02

Why EDB for Oracle Migration

Building Blocks of Oracle Compatibility



SCHEMA



DATA



CODE



API



TOOLS

Part of the way

SCHEMA AND DATA
ONLY



Most of the way
SCHEMA, DATA AND CODE



Almost there
SCHEMA, DATA, CODE AND INTERFACE

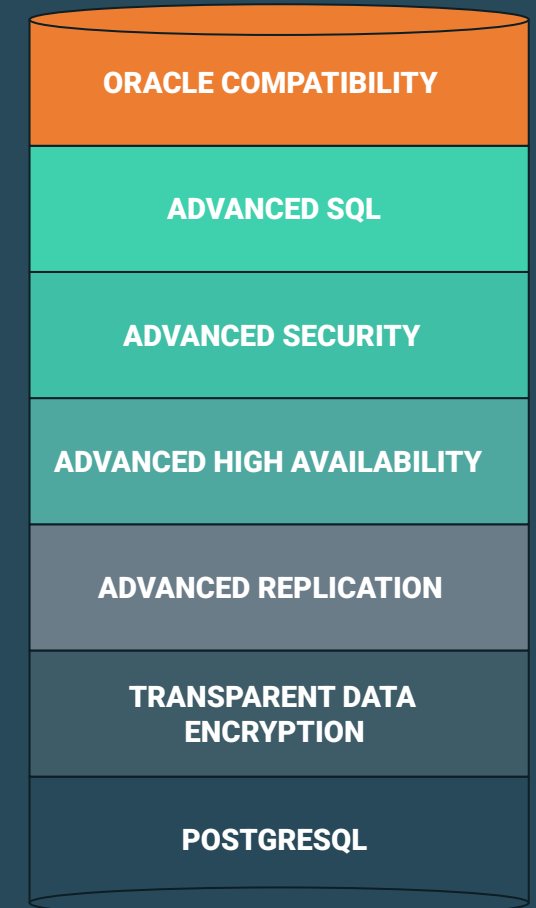


All the way
SCHEMA, DATA, CODE, INTERFACE AND OPERATIONAL TOOLS



Why EDB Postgres

- **PostgreSQL** Open-source, standards-based SQL foundation — reliable, extensible, and battle-tested.
- **Transparent Data Encryption** Encrypts data files and WAL at rest with minimal overhead — no application changes required.
- **Advanced Replication** Built-in advanced replication (v14+) keeps clusters synchronized for resilience and scale.
- **Advanced High Availability** Distributed, multi-master architecture delivers always-on Postgres with up to five 9s of uptime.
- **Advanced Security** Auditing, SQL/Protect, and data redaction extend Postgres security against unauthorized access.
- **Advanced SQL** Enhanced procedural language, profiles, and tuning tools add enterprise SQL depth beyond core Postgres.
- **Oracle Compatibility** Built-in Oracle syntax, data types, and PL/SQL let Oracle workloads run on Postgres with minimal rewrites.



Enterprise — EDB Postgres Advanced Server

BUILT-IN ORACLE FEATURES (NO CODE CHANGES)

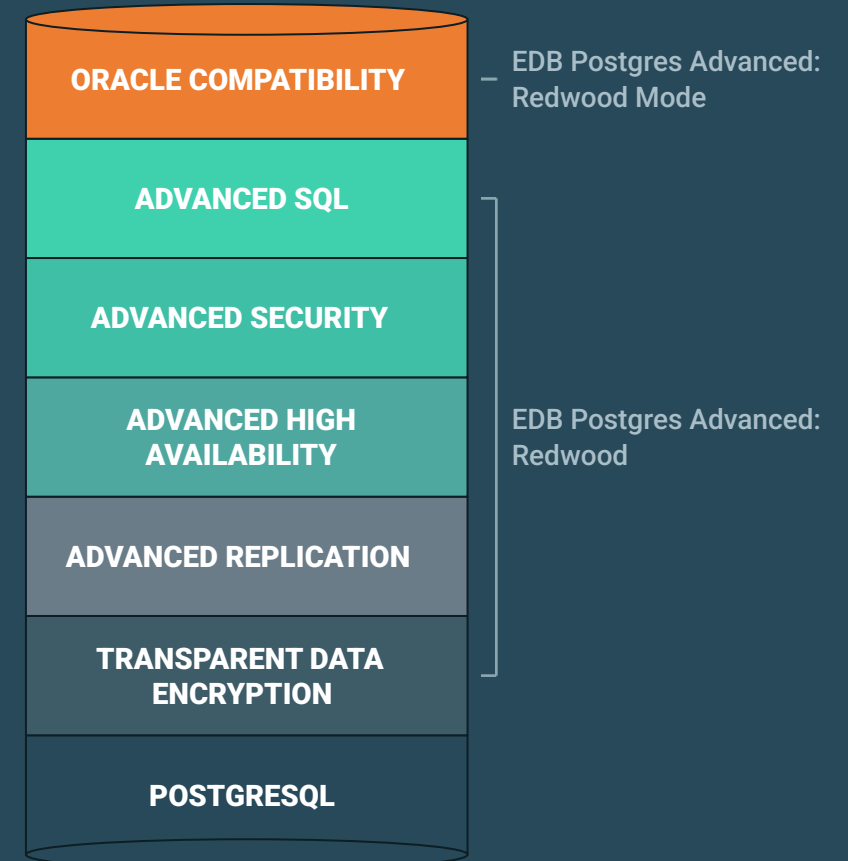
- **PL/SQL execution:** Procedures, functions, packages run as-is
- **Oracle packages:** DBMS_OUTPUT, UTL_FILE, DBMS_JOB supported
- **Data types:** VARCHAR2, NUMBER, DATE with time preserved
- **SQL syntax:** CONNECT BY, ROWNUM, DUAL table work natively

CRITICAL MIGRATION ENABLERS

- **Hierarchical queries:** CONNECT BY PRIOR works natively
- **edb_redwood_strings:** Handles Oracle NULL/empty string behaviour
- **Oracle-style triggers:** NEW/OLD syntax compatibility
- **Global temporary tables:** Session-based temp table support

EDB MIGRATION TOOLKIT SUITE

- **Migration Portal:** Cloud-based assessment (no installation)
- **Migration Toolkit:** Automated schema and data transfer
- **SPL Check:** PL/SQL code validation
- **LiveCompare:** Zero-downtime data validation



~80%-90% efforts are Automated. Oracle compatibility + open source freedom = EDB Postgres

SECTION 03

EDB Migration Framework: ACTIONS

Oracle Migration Complexity

WHAT MAKES ORACLE MIGRATIONS COMPLEX

Technical debt

- 15+ years of PL/SQL accumulation
- 10,000+ stored procedures and packages
- Deep application dependencies on Oracle features
- RAC clusters with active-active requirements

Oracle lock-in features

- **Advanced queuing:** Message processing
- **DBMS packages:** Business logic embedded
- **Materialized views:** Fast refresh dependencies
- **Flashback:** Temporal queries in applications
- **RAC:** High availability requirements

BUSINESS CONSTRAINTS

- Zero data-loss tolerance
- <1 hour maintenance windows
- Regulatory compliance requirements
- Performance SLAs must be maintained

HOW EDB SOLVES THIS

- ~80-90% automatic PL/SQL compatibility
- Oracle packages run natively (DBMS_, UTL_)
- Near-zero downtime with Replication Server
- Performance parity or better for most workloads

7 PHASES TO DATABASE FREEDOM

EDB Migration Framework: ACTIONS Overview

A - Assessment Scan → Score → Size

C - Conversion Schema → Code → Validation

T - Tooling Right tools → Right strategy

I - Implementation Migrate → Sync → Optimize

O - Operation Monitor → Automate → Manage

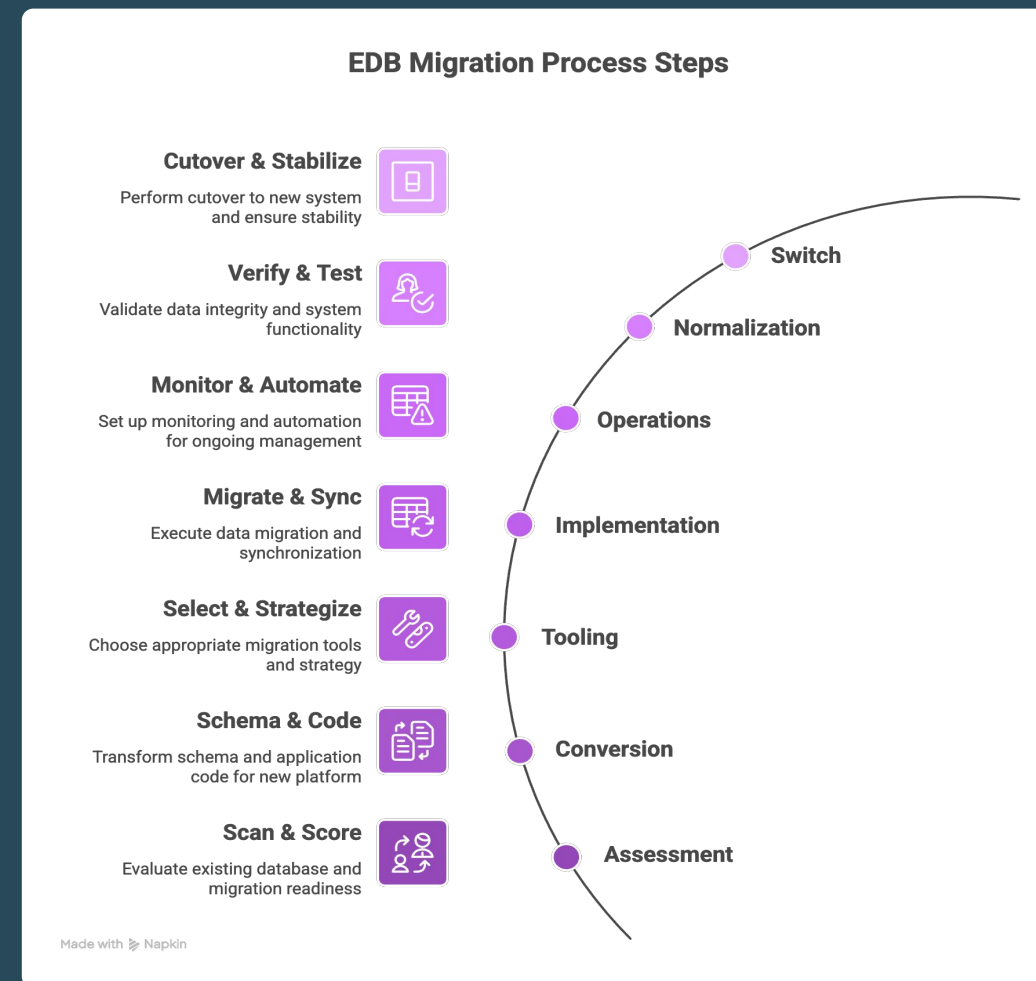
N - Normalization Verify → Test → Certify

S - Switch Cutover → Stabilize → Succeed

Traditional Migration	EDB ACTIONS Framework
6–12 months	6–8 weeks
40% failure rate	<1% rollback rate
Trial and error	Predictable phases
Multiple vendors	Integrated toolkit

KEY DIFFERENTIATORS

- Automated assessment identifies issues before they become problems
- Built-in validation at every phase reduces risk
- Proven playbooks for Oracle and Cloud PostgreSQL scenarios



Automated Conversion Strategies

Your Oracle code running on EDB

```
CREATE PACKAGE BODY payroll_pkg AS
  PROCEDURE calculate_salary (emp_id NUMBER) IS
    v_salary  NUMBER(10,2);
    v_bonus   VARCHAR2(100);
  BEGIN
    SELECT salary INTO v_salary FROM employees WHERE id = emp_id;
    DBMS_OUTPUT.PUT_LINE ('Salary: ' || v_salary);
    UTL_FILE.PUT_LINE (file_handle, 'Processed');
    COMMIT;
  EXCEPTION
    WHEN NO_DATA_FOUND THEN
      DBMS_JOB.SUBMIT (job_id, 'retry_process');
  END;
END payroll_pkg;
```

Status: **Runs UNCHANGED on EDB Postgres**

What works automatically (~80%)

- PL/SQL packages, procedures, functions
- Oracle packages (DBMS_, UTL_)
- Exception handling with Oracle codes
- Cursors, loops, conditional logic
- Data types (VARCHAR2, NUMBER, DATE)

Focus on Goal (~20%)

- RAC dependencies → AAA PGD Architecture
- Flashback queries → Temporal tables
- Advanced queuing → Message queue tools
- Materialized view fast refresh → Standard refresh

ONE PLATFORM, COMPLETE MIGRATION

EDB Migration Factory Toolkit

From assessment to production — one toolkit does it all



Phase	Tools	Purpose
Assess	Migration Portal	Cloud-based complexity scoring
Convert	Migration Toolkit + Migration Co-Pilot + SPL Check	~80% automatic schema/code conversion
Migrate	Replication Server	CDC for zero-downtime migration
Validate	LiveCompare	Continuous data verification
Operate	PEM + Failover Manager + PGD	Monitoring and HA management

WHY INTEGRATION MATTERS

- **Without EDB:** 10+ separate tools, 6 months of integration, compatibility issues
- **With EDB:** Single platform, pre-integrated, proven compatibility

KEY ADVANTAGES

- **All tools designed to work together**
- **Single-vendor support**
- **Unified licensing model**
- **40% faster project delivery**

From assessment to production — one toolkit does it all

SECTION 04

Oracle Compatibility Demo

Critical Gotchas and Solutions

Oracle → EDB: the hidden surprises

Gotcha	Impact (non-edb solution)	EDB Solution
Empty strings = NULL	Application logic breaks	edb_redwood_strings = true
DUAL table queries	Syntax errors	DUAL supported natively
Sequence.CURRVAL	Session not found	Use LASTVAL() or RETURNING
Global temp tables	Data visible across sessions	EDB session-based temps / Extension: pgtt
DATE includes time	Time stamp mismatches	Oracle-compatible DATE type

Key insight: Most “gotchas” have built-in EDB solutions — just enable them.

Test these scenarios first; save weeks of debugging later.

Ensuring Success: Optimization & Verification

1 Performance Optimization

Transform bottlenecks into breakthroughs with parallel processing, intelligent indexing, and EDB-optimized query patterns that deliver sub-second response times.

2 Data Integrity Assurance

Zero-tolerance validation using LiveCompare's real-time verification, cryptographic checksums, and automated reconciliation ensuring 100% data fidelity.

3 Application Continuity

Seamless transition with EDB SPL Check validating PL/SQL compatibility, preserving transaction semantics, and maintaining business-critical SLAs.

SUCCESS METRICS THAT MATTER

99.999% data accuracy
guaranteed

<20% performance variance
from baseline

Zero business disruption during
cutover

100% application functionality
preserved

Your safety net: LiveCompare + SPL Check = Migration confidence

SECTION 05

Breaking Cloud Locks

Breaking Cloud Lock-in

CAPABILITY COMPARISON

CAPABILITY	RDS / AURORA	EDB POSTGRES AI
Deployment	AWS regions only	Any cloud · On-prem · Bare metal
DB Access	No superuser · Black-box ops	Full OS + kernel + pg_ctl
Cost Model	Variable cloud pricing	Predictable subscription
Extensions	AWS-approved list only	All extensions + custom builds
High Avail.	Multi-AZ managed failover	PGD
Backup	AWS Backup service only	Barman
Monitoring	CloudWatch only	PEM + pg_stats (meta view)
Migration	Manual / AWS DMS	Agentic Data Migration Services (DMS)

MIGRATION JOURNEY

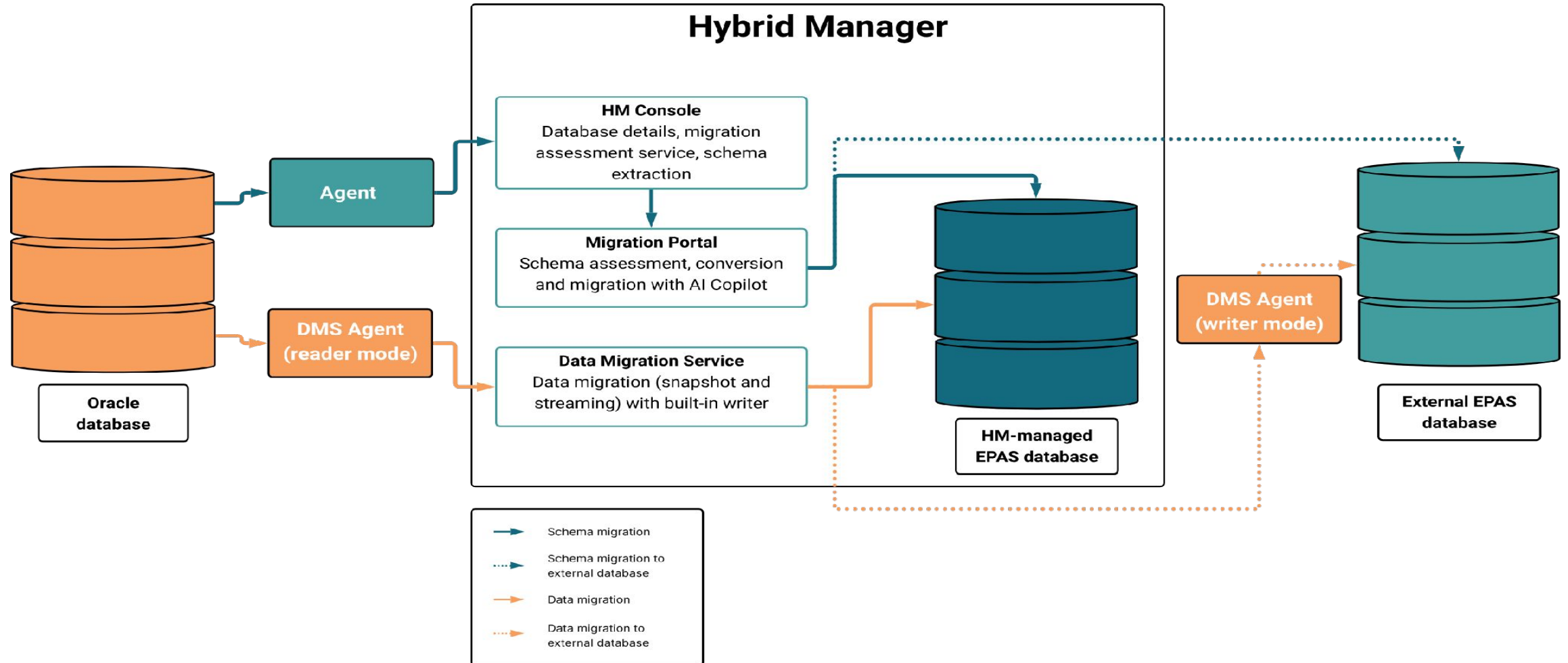
- 01 **SETUP**
EDB Postgres target environment
- 02 **SYNC**
Logical replication from RDS / Aurora
- 03 **VALIDATE**
LiveCompare ensures data integrity
- 04 **CUTOVER**
Update connection endpoints only
- 05 **FREEDOM**
Full control · No vendor lock-in

WHY MIGRATE TO EDB

- ▶ **Deploy Anywhere**
AWS · Azure · GCP · On-prem — no lock-in
- ▶ **Predictable Costs**
No cloud egress fees or variable pricing
- ▶ **Full Feature Access**
Superuser · all extensions · your schedule

Same PostgreSQL — your infrastructure, your control.

EDB Postgres AI – Migration Architecture



SECTION 06

Migration Demo

SECTION 07

Swordfish – Next Gen Migration : Demo

Summary

- Oracle Lock-in: Innovation Bottleneck, Interoperability, Modern Platform & Transparent TCO.
- EDB Postgres: Modern Data Platform for Secure, Advanced Postgres for Oracle Migration.
- ACTION Framework: Proven Methodology for Successful Migration.
- Migration Suites: Migration Assessment, Migration Toolkit, Migration Co-Pilot, SPL-Check, Replication, Live Compare & DMS.
- AWS RDS/Aurora Comparison.
- Agentic AI Migration Demo with DMS Services.
- Swordfish Next Gen Migration Demo.

Q&A

THANK YOU

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