



Oracle Database

Competition overview

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Oracle EMEA





PostgreSQL

- Marketed as “most advanced open-source **relational database**”
- Started in 1986 at UC Berkeley – POSTGRES project
- Free and open-source. Extensible
 - PostGIS, spatial database extender for PostgreSQL
- Large PostgreSQL community
- Many PostgreSQL commercial versions
 - EnterpriseDB, Netezza/IBM, Greenplum, Postgres-XL, AgensGraph, Fujitsu, AWS Redshift,...



Oracle Database vs PostgreSQL



Security

- Critical aspect of modern environments
- Long list of strong Oracle's advantages over PostgreSQL

Development

- Allows for presenting Oracle Database as the most flexible DBMS, which simplifies architecture and development
- Prooves that Oracle Database can be considered as modern database engine

Manageability and High Availability

- Crucial for mission-critical systems
- Impacts TCO of complex environments

Performance

- Presents Oracle Database as an engine, which can be used in the most complex scenarios



Maximum Security Architecture

Key to Database Security Controls



Assess



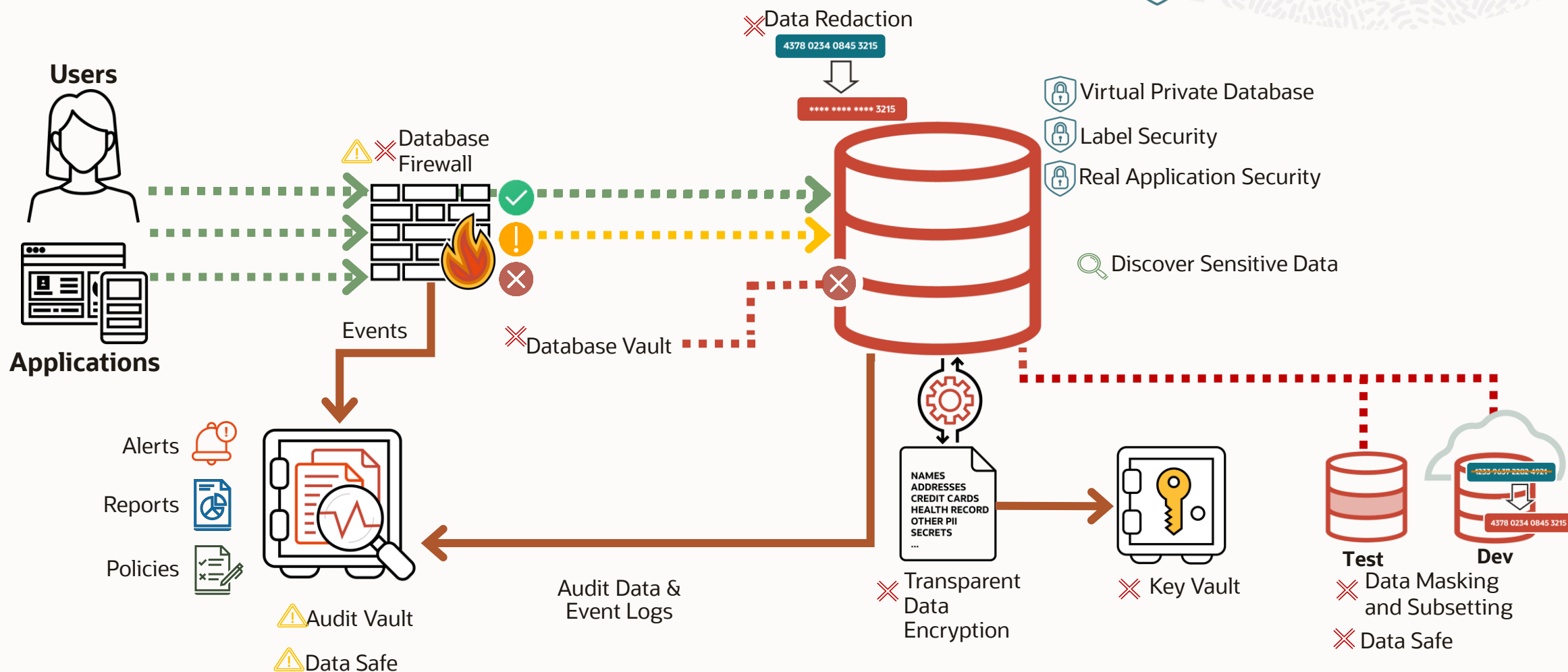
Prevent



Detect



Data-Driven Security



Oracle Database

Security

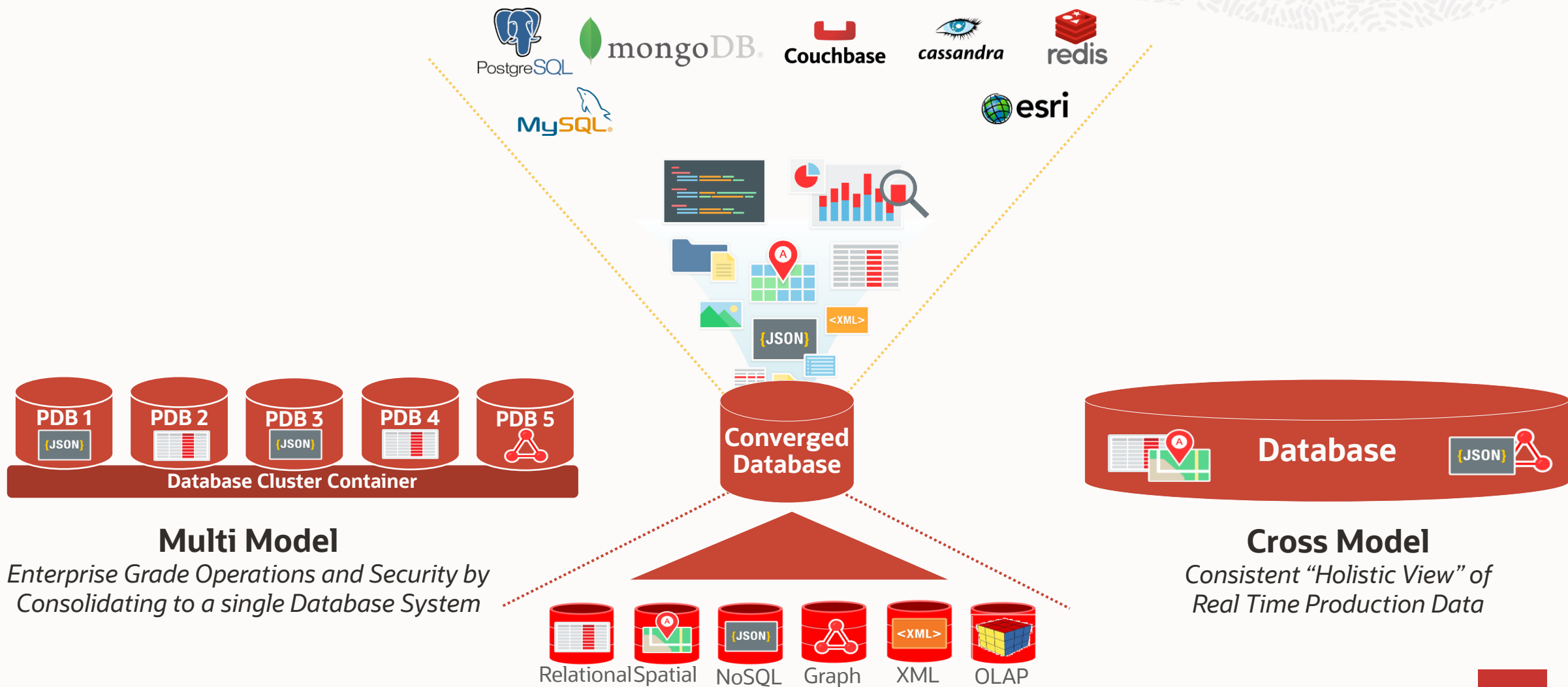


- Oracle provides long list of security-related features, which are not available in PostgreSQL database:
 - ASO with Transparent Data Encryption
 - Data Masking and Subsetting
 - Data Redaction
 - Database Vault
 - Key Vault and Database Firewall
 - Label Security
 - Database Security Assessment Tool

(the list is not exhaustive)
- Maximum Security Architecture design pattern makes solution design easy

Oracle Converged Database

Multi- and Cross-Model Database



Oracle Converged Database

Access data via SQL & REST or model-specific APIs: your choice

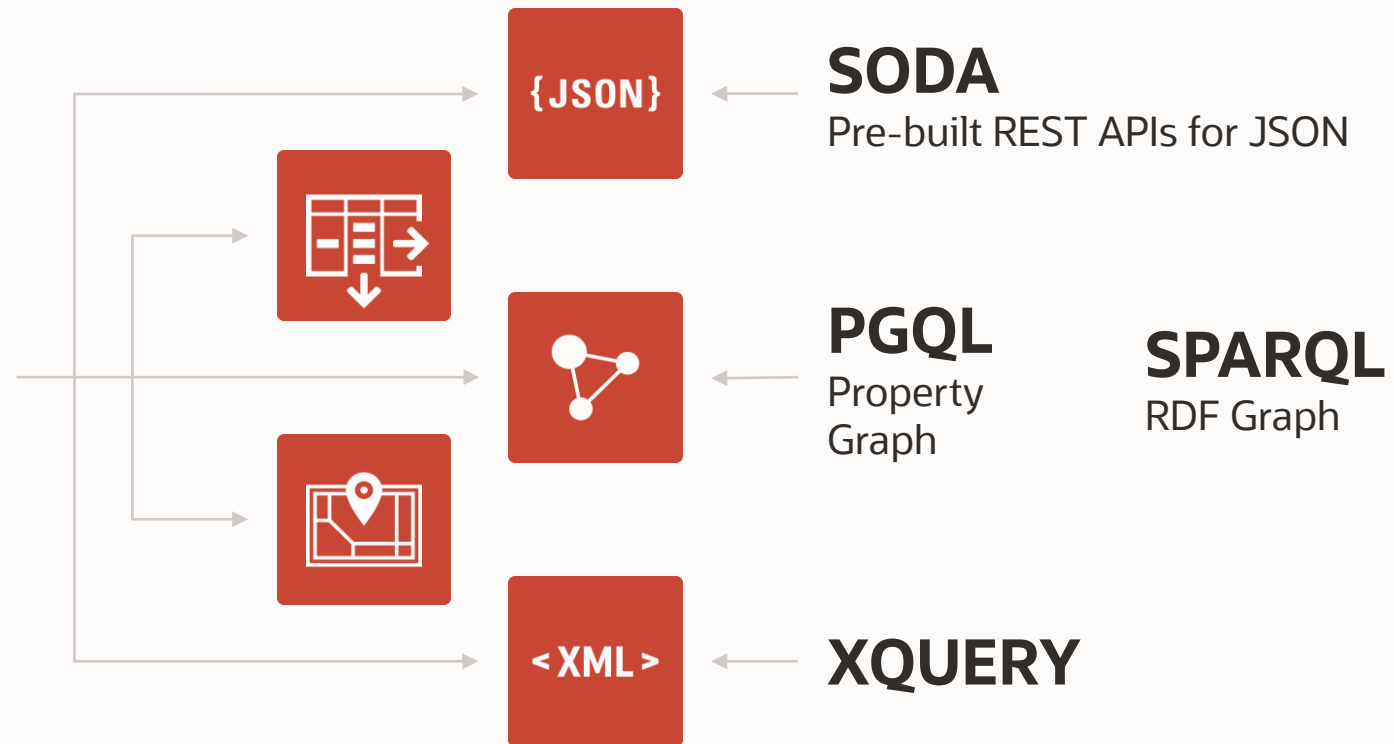
Developers can easily access multiple data models simultaneously via SQL, REST and APIs

Cross-Model Data Access

Model-Specific Data Access

SQL & REST

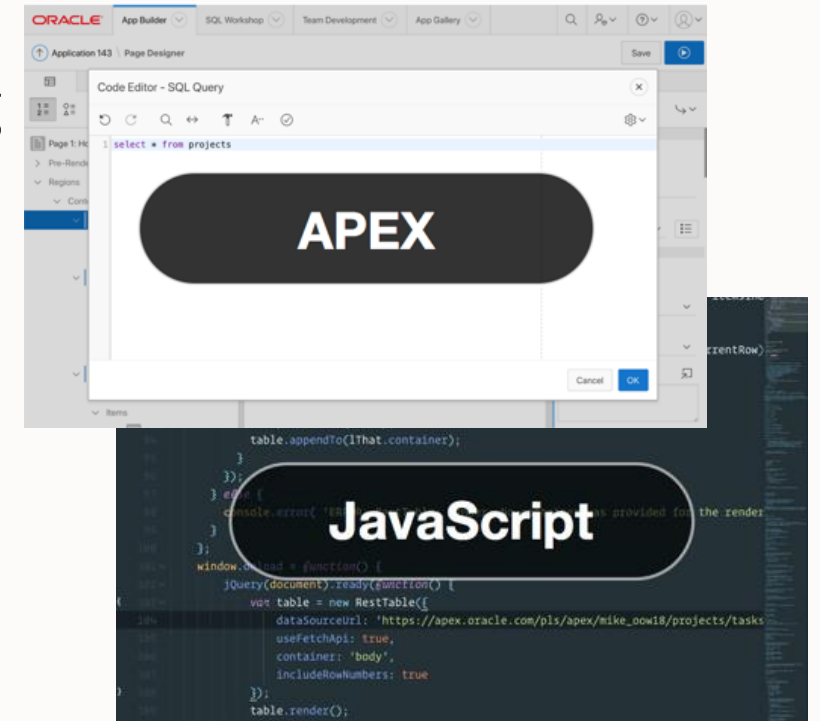
Relational, Graph,
Document, Spatial,
Temporal, multidimensional



Application Express (APEX)

Low-code environment for Oracle Converged Database

- **Low code** app dev platform
- Browser IDE automatically creates an App starting from a spreadsheet or a table
- SQL and REST friendly
- Deep integration with Oracle database
- Eliminates the complexity of Middle-tiers, connection management, state management, mapping database types to app types, scaling and HA
- Development of responsive and mobile apps
- 500K+ developer community



Oracle Database

support for MongoDB

Modern document-centric development

- JSON Collections-based data model
- Rich clients – MongoDB API, REST and SODA based development API
- Native JSON storage with advanced indexes and optimized performance

... and proven enterprise functionality

- ACID Transactions
- SQL-based Reporting and Analytics (including scalable parallel execution)

... running on any Oracle Database

- Availability
- Security
- Elasticity

More details can be found [here](#)



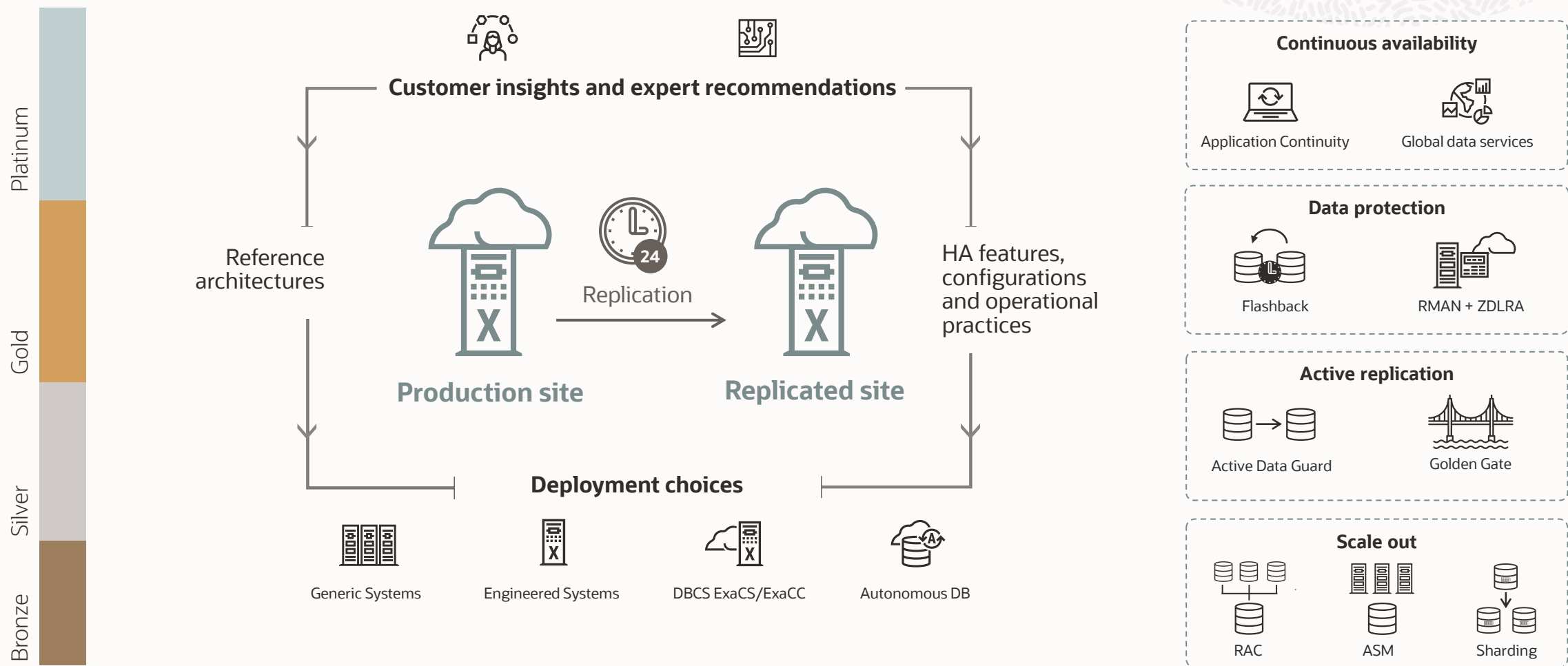
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Performance



- Oracle provides long list of performance-related features, which are not available in PostgreSQL database:
 - Full support for Parallel SQL, including DML and DDL
 - Full support for materialized views, including refreshing and query rewrite
 - Compiled PL/SQL stored programs
 - Automatic Indexing (Exadata Only)
 - Sharding, Real Application Clusters and Active Data Guard for highly scalable systems
 - Advanced Compression for reducing read operations
- (the list is not exhaustive)

Oracle Maximum Availability Architecture (MAA)



MAA reference architectures

Availability service levels

Bronze

Dev, test, prod

Single instance DB

Restartable

Backup/restore



Silver

Prod/departmental

Bronze +

Database HA with RAC

Application continuity



Gold

Business critical

Silver +

DB replication with Active
Data Guard



Platinum

Mission critical

Gold +

Golden Gate

Edition based redefinition



All tiers exist with on-premise and cloud

Oracle Database

High Availability



- Oracle database provides long list of high availability features, which are not available in PostgreSQL database:
 - Real Application Clusters
 - Active Data Guard
 - Transparent Application Failover
 - Sharding
 - Online Redefinition
- (the list is not exhaustive)
- Maximum Availability Architecture design pattern makes solution design easy

Oracle Database

Manageability



- Oracle database provides long list of management solutions:
 - Enterprise Manager with extension packs for managing large-scale database ecosystems
 - Advisors helping solving issues related to different areas, like:
 - Database In-Memory Advisor
 - Compression Advisor
 - Statistics Advisor(the list is not exhaustive, more about advisors can be found [here](#))
- GoldenGate can be used to migrate the data from a PostgreSQL to Oracle

Summary

Key Messages

Advantages of Oracle Database over Postgresql can be split into four categories

- Security
- Development
- High Availability and Manageability
- Performance

Oracle Database simplifies architecture and application development

- Multiple APIs
- Low-Code Environment

