# Modernize your Data Strategy

Increase Efficiencies and Minimize Cost and Risk

**Katlego Sejoe**
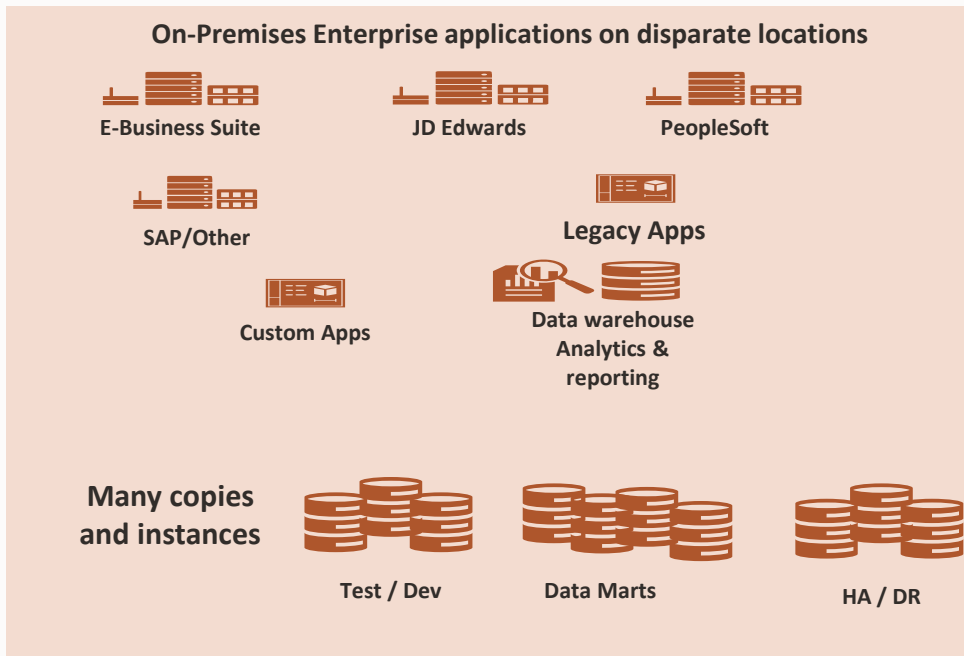
**Oracle Technology Software Engineering**

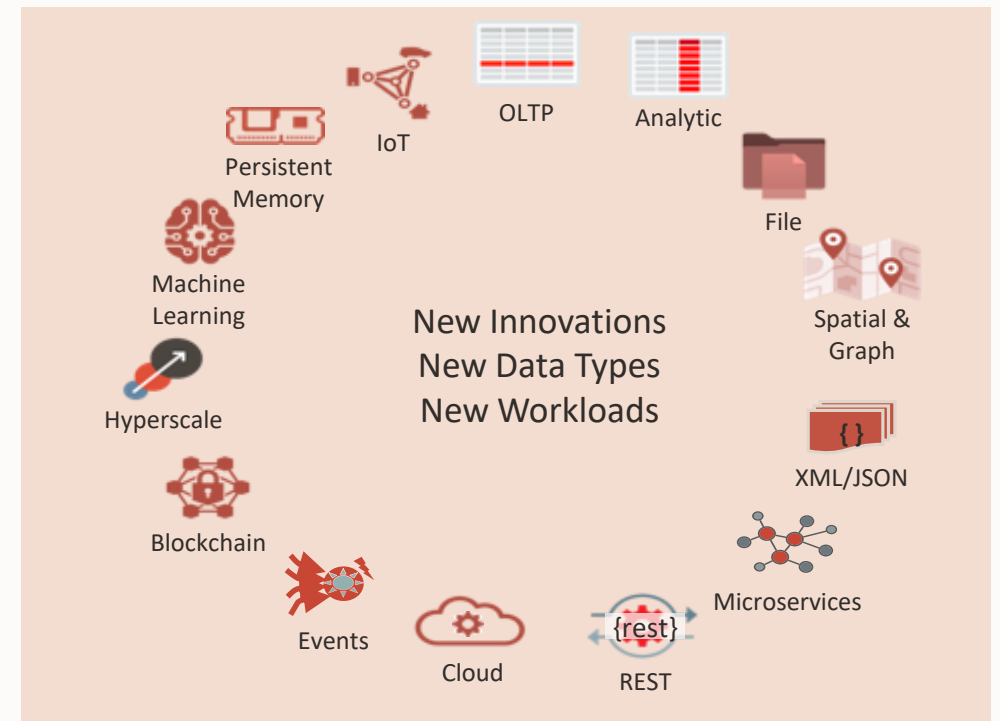**GovTech 2023**

# Why Consolidate : Business Drivers for Database Consolidation

## Complexity of the IT infrastructure

**On-Premises Enterprise applications on disparate locations**

E-Business Suite

JD Edwards

PeopleSoft

SAP/Other

Legacy Apps

Custom Apps

Data warehouse Analytics & reporting

**Many copies and instances**

Test / Dev

Data Marts

HA / DR

**Leads to …High Operational costs, Data Complexity …**

## Data Fragmentation across multiple data stores

Persistent Memory

IoT

OLTP

Analytic

File

Machine Learning

New Innovations
New Data Types
New Workloads

Spatial & Graph

Hyperscale

XML/JSON

Blockchain

Events

Cloud

{rest}
REST

Microservices

**Leads to…Data Integrity, Security, Availability Challenges**
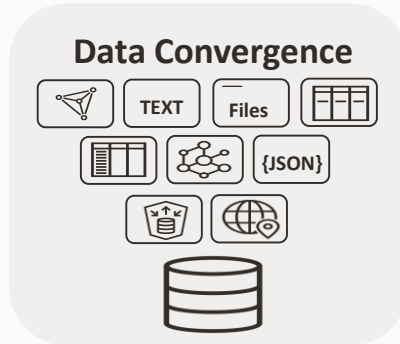
**And High Integration and Management  Costs …**

# Reduce Complexity - Modernize with a Standardized data strategy
## Standardize, consolidate, and streamline operations with Oracle Database



**Current IT Environment with Database Sprawl**

- Complex systems and integration
- Extensive management
- Data fragmentation
- Disjointed data security

**Standardize Data Platform**

- Easier data integration
- Improved data governance
- Consistent data security
- Lower total cost of ownership

**Consolidate Databases**

- Fewer databases and less infrastructure
- Increased efficiency
- Reduced complexity
- Lower cost

**Automate Management**

- Efficient DB consolidation and migration
- Database management tasks automation
- Less effort and risk maintaining DB fleets
- Optimized resource utilization

# Consolidate Database Workloads

Maximize resource utilization and lower cost and risk with ideal database architecture
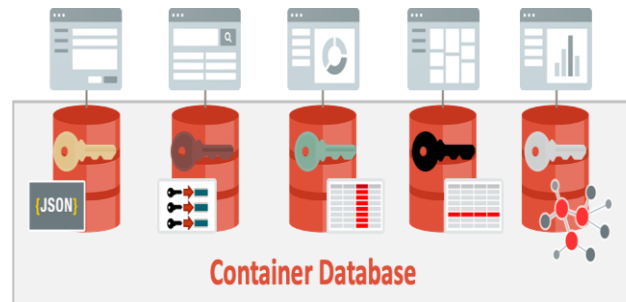
# Three Pillars of Database Consolidation

## Oracle Database - The most advanced database platform

- Deliver superior **performance**, **availability** and **security**
- **Improve** IT operations. Accelerate development
- Unlock new value from **ANY data**



## Effective Consolidation with Oracle Multitenant

- **Minimize CAPEX**, more applications per server
- **Minimize OPEX** by managing many as one
- **Increase agility**, provisioning, relocation, cloning



## Exadata – The perfect platform for database consolidation

- **High Consolidation density**. For ALL database workloads
- **69%** more efficient IT staff. High 5-year **ROI**
- **Flexible deployment choices**

# Oracle Multitenant Architecture Enables Consolidation and Lower Costs

Consolidated Databases Share Pooled Resources
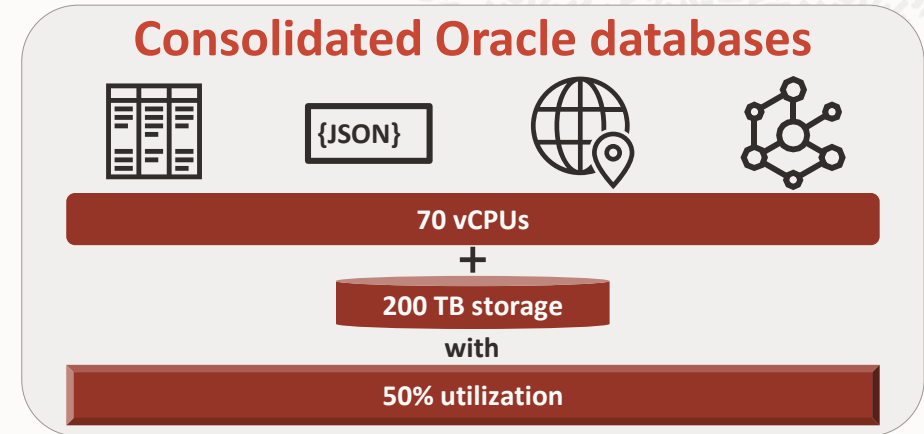
## Consolidation increases utilization

- Pooled resources shared by all databases
- No provisioning for peak stand-alone workloads
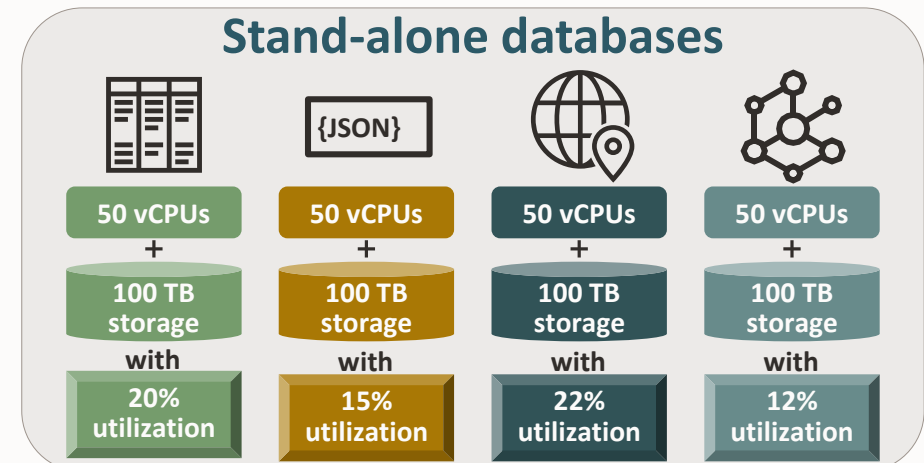- Dramatic cost savings

## Consolidation reduces management

- Fewer databases and systems to manage
- Standardized operations reduces management
- Standardized security improves protection

## Consolidation improves agility

- Immediately provision databases from shared resources
- No downtime to change compute shapes
- No downtime to patch Exadata resources

### Consolidated Oracle databases

{JSON}

**70 vCPUs**

**+**

**200 TB storage**

with

**50% utilization**

**vs.**

### Stand-alone databases

{JSON}

| 50 vCPUs | 50 vCPUs | 50 vCPUs | 50 vCPUs |
| + | + | + | + |
| 100 TB storage | 100 TB storage | 100 TB storage | 100 TB storage |
| with | with | with | with |
| 20% utilization | 15% utilization | 22% utilization | 12% utilization |

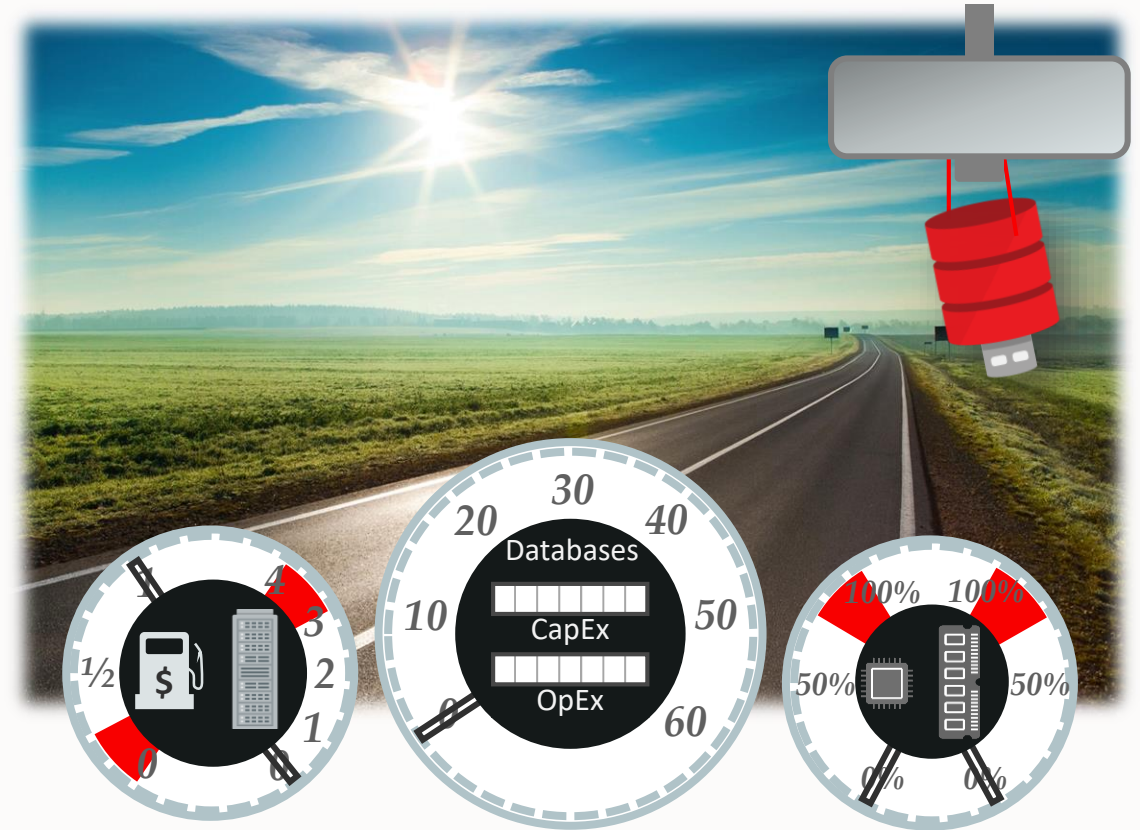# Multitenant Architecture Minimizes CAPEX and OPEX

**50%**

Customers can **consolidate 50% more databases** with Multitenant than without

- *Fewer Servers*
- *less power*
- *less floor space*

**35%**

Managing many databases at Container **reduces TCO by 35% in staff costs alone**

- *Simplified Management*
- *Rapid Provisioning*
- *Flexible Load Balancing*
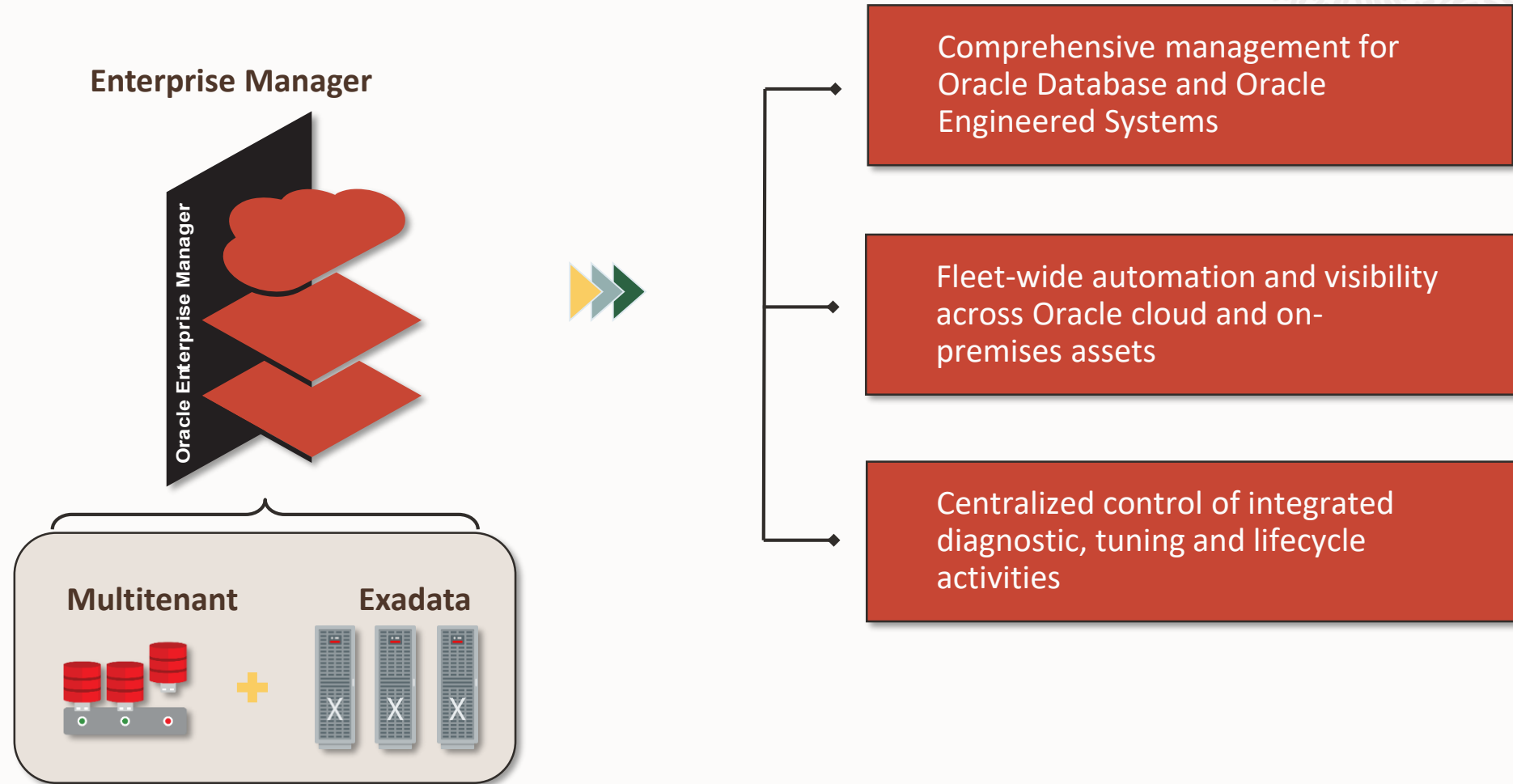
Source: *Multitenant: Seven Sources of Savings*

# Automate Management

Automate consolidated database operations with Enterprise Manager

Oracle Enterprise Manager
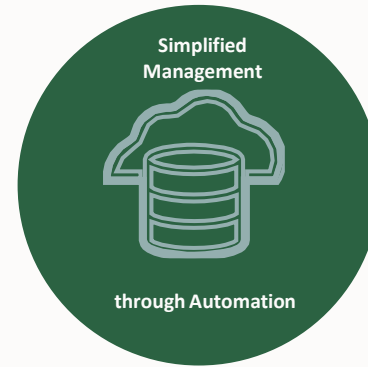
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# Comprehensive Solution for Managing Consolidated Database Environment

Enterprise Manager offers Integrated Deployment Architecture and Operations

**Enterprise Manager**

Oracle Enterprise Manager

**Multitenant**    **Exadata**

Comprehensive management for Oracle Database and Oracle Engineered Systems

Fleet-wide automation and visibility across Oracle cloud and on-premises assets

Centralized control of integrated diagnostic, tuning and lifecycle activities

# Simplify Oracle Database Lifecycle Management

Simplified
Management

through Automation

## Provision and Clone

- Automated, repeatable, and scheduled deployment of standardized configuration of single instance, RAC and multitenant databases

- End-to-end solution to clone masked production databases for backup and new application dev-test requirements

## Patch and Upgrade

Automatically patch, and upgrade large number of databases with minimal downtime

- Scan the database fleet and provide recommendations to standardize

- Create new software images and subscribe database to them

- Push Image and schedule the subscribers to switch

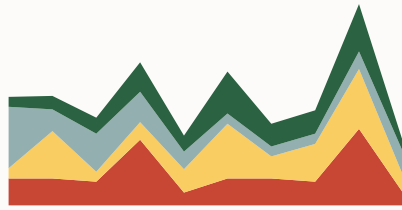- Track and manage using EM UI

## Configuration and Compliance

- Monitor standardized configuration, detect misconfigurations, and apply corrective actions to comply, reduce security risks

- Secure configuration of databases, hosts and engineered systems, comply with industry and regulatory standards, harden security posture

# Simplify Database Performance Management
## Single Pane of Glass for Performance and Availability



Oracle Enterprise Manager

**FIND**

Proactively prevent database performance issues

**01**

**FIX**

Reduce mean time for detecting and repairing problems with deep root-cause analysis and application tuning

**02**

**VALIDATE**

Validate database performance to ensure quality of service and to maintain SLAs

**03**

- 50%
- 30%
- 20%

# Comcast Launches Fleet-Wide Database Automation



- On-Demand database provisioning
- On-Demand database patching
- Standardization for compliance

**Solution:** Oracle Enterprise Manager; Database Lifecycle Management pack Cloud Management pack

| **Minutes** | **2,100** | **Reduced** |
|---|---|---|
| Down from 2-3 months for provisioning | Databases patched automatically | Database maintenance downtime |

Industry: Communications & Media

**Success Story**

ORACLE

**Maximize Your Investment with**

# Oracle Applications Unlimited

Since the beginning, Oracle has delivered the technical support you need to drive your business.

# We See The Big Picture

## The Applications Unlimited Products:

- **Oracle E-Business Suite**
- **JD Edwards EnterpriseOne**
- **PeopleSoft**

- **Siebel CRM**
- **Oracle Hyperion**

Oracle recognizes that Applications Unlimited products are central to your strategy and long-term roadmap. You've integrated these applications into your business model and we're committed to help you maximize your investment.

The current Continuous Innovation release for the Applications Unlimited products gives you the latest features and functionality without major upgrades.

# How Applications Unlimited Works

With the latest Continuous Innovation release, we've eliminated major upgrades, saving you time and money that you can apply to your business priorities.

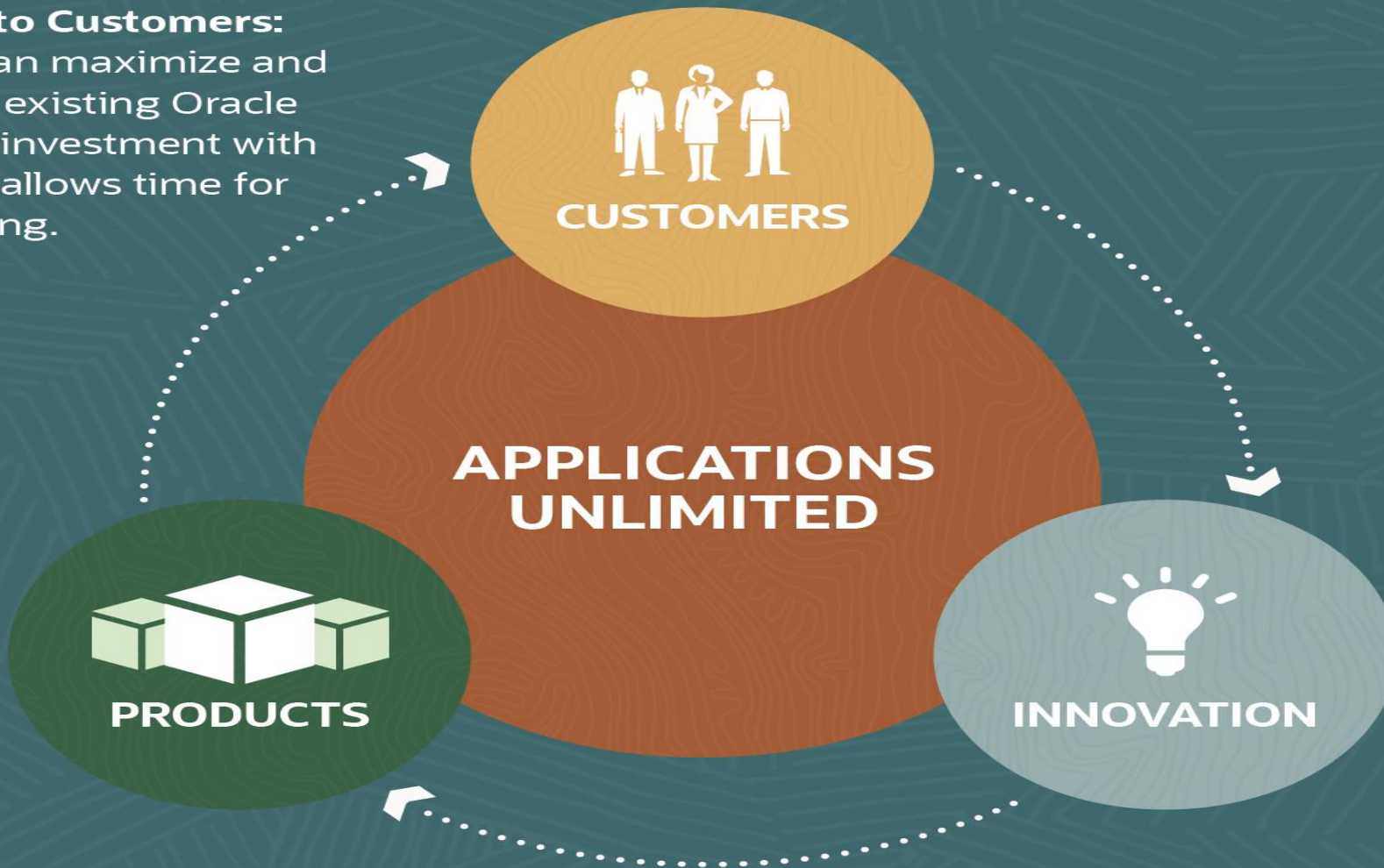**Access new features without major upgrades.**

**New functionality delivered as updates to the existing Continuous Innovation release.**

**Fixes and updates are cumulative and available in most current releases.**

## Our Commitment To Excellence Starts With You

**Committed to Customers:** Customers can maximize and expand their existing Oracle Applications investment with support that allows time for future planning.

CUSTOMERS

APPLICATIONS UNLIMITED

PRODUCTS

INNOVATION

**Committed to Products:** Customers can rely on our on-premises applications and expertise to run their business.

**Committed to Innovation:** Customers can depend on Oracle to continue investing in Continuous Innovation releases.

# Key Benefits Of Applications Unlimited

**On-premises or in Oracle Cloud Infrastructure, your choice**

**New features without major upgrades in the Continuous Innovation release**

**Ample time to allocate resources for the future**

**More value from your business customizations**

# Oracle Lifetime Support Policy

Get Oracle Premier Support for your Applications Unlimited products through at least 2034.

**Explore the Oracle Lifetime Support Policy**

Experience Oracle Applications Unlimited and Oracle Premier Support.

**Secure**

Oracle owns the source code and has the tools and the ability to develop security updates.

**Comprehensive**

You can expect integrated support and product updates with a single point of accountability.

Gain the flexibility to move your Applications Unlimited products—with your business customizations—to the Oracle Cloud Infrastructure, as needed by your business.

**Trusted**

More than 430,000 customers rely on Oracle Support.

# Oracle provides the best database consolidation platform and benefits
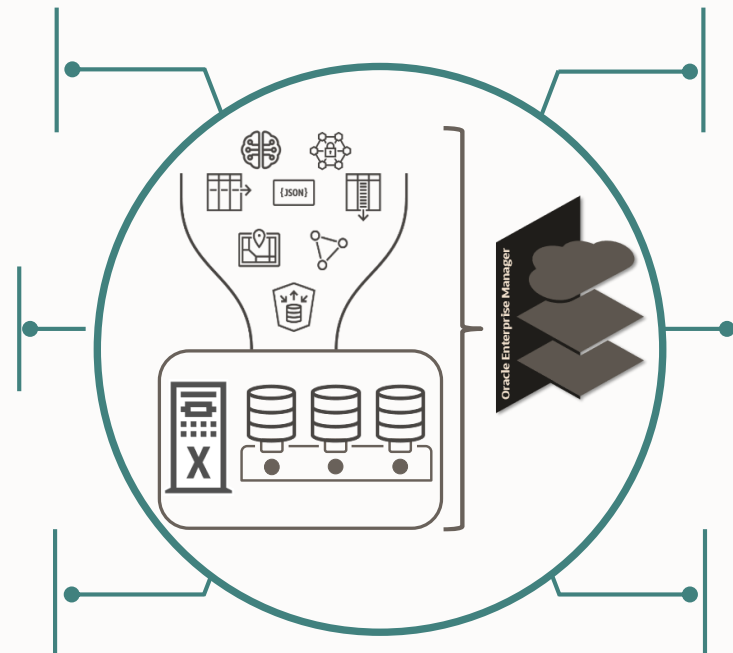
## Lower Cost

- More databases
- Greater resource utilization

## Simpler deployments

- Converged database
- Reduced fragmentation
- Management automation

## More security

- Full-stack security including OS, and database



Oracle Enterprise Manager

## Higher availability

- Full-stack redundancy
- Integrated Disaster Recovery

## Greater performance

- Superior architecture and scale
- Unique software optimizations

## Easier Database Management

- Database management tasks automation
- Less effort and risk maintaining DB fleets