Oracle Autonomous Database Update

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Autonomous Database + Analytic SQL
Safe harbor statement

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Oracle Autonomous Database
A new era of cloud database where everything is automated

Enterprise-Class
Security, availability, scalability, and performance

Self-Driving
With true cloud-elasticity for low cost

Most Productive
Converged Database plus self-service tools for business analysts, developers and more

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Elastic Scaling in Autonomous Database
Lower costs in the cloud

Size your database for your workload
• Select the exact number of CPU’s you need
• Not constrained by fixed-shape ‘t-shirt’ sizes
• Grow incrementally online

Auto-scaling for changing workloads
• Instantly scales up and down based on workload
• Simple – no system sizing expertise required
• Full performance - no ‘cache warm-up’ required

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Application Integration with Autonomous Database
Rapidly get insights from your enterprise application data

Oracle Fusion Analytics Warehouse
• Pre-built data warehouse for Fusion ERP and Fusion HCM

NEW Built-in connectors for easy data extraction from enterprise applications
• Oracle Fusion Cloud Applications
• Netsuite
• Oracle eBusiness Suite
• Peoplesoft
• Siebel
• JD Edwards
• SAP
• Salesforce

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Security in Autonomous Database
Unmatched security in the cloud keeps your data safe

Secure database infrastructure
- Always encrypted, always audited, always patched

Automated data protection
- Risk assessment and analysis of user privileges
- Automatic discovery and masking of sensitive data

Even prevents privileged users from accessing others’ business data
- Utilizing Oracle’s unique Database Vault

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Autonomous Database | Optimized by Workload

Autonomous Database delivers highly available databases, configured and tuned for specific workloads, scales compute resources when needed, all done automatically.

Optimized for all types of analytical processing
- EDWs
- Data lakes
- Departmental Data Warehouse
- Data science + machine learning
- Data and IoT event streams

Optimized for OLTP and real-time operational applications
- Enterprise transaction applications
- Mission-critical applications
- Mixed-workload applications
- Cloud native applications
- Low-code applications

Optimized cloud document service for JSON-centric apps
- Mobile applications
- Apps with dynamic personalized experiences
- Content and catalog management
- Integrated IoT applications
- Digital payment applications

Low-code development service
- Building scalable, secure enterprise apps
- Extensive library of pre-built components
  - Powerful components enable high-level of functionality with almost zero coding
  - Eliminates 98% of hand coding

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What’s New with Oracle Autonomous Database?
Autonomous Database: Recent New Features

2020

- JAN: Support for Private Endpoints
  - Added Database Vault
  - APEX 19.2 Released
- FEB: ADB version by region
  - Upgrade to 19c doc
- MAR: SODA Documents and Collections
  - Per-Second Billing
  - Wallet file contains README
- APR: Upgrade ADB to Database 19c
- MAY: APEX 20.1
  - Autonomous Data Guard
  - DR links via Database Gateways
- JUN: Customer Managed Oracle
  - REST Data Services
- JUL: Autonomous JSON Database
- AUG: Private Endpoint support for tools
  - Refreshable Clones
- SEP: Private Endpoint support for tools

2021

- OCT: S3 signed URLs
  - Azure Blob Storage shared-access-signatures URLs
- NOV: New ADB events
  - PE support for OML Notebooks
- DEC: Oracle Machine Learning for Python
- JAN: Autonomous Database Events
  - PL/SQL SDK for OCI resources
- FEB: APEX 30.2
  - Replicate and capture data
    - with FastJoinData
- MAR: Database Actions landing page
  - Query Big Data Service
  - NextGen Trace
Evolve to become a unified data management platform

ADB yesterday
• A handful of integrated tools

Available today

Autonomous Database today
Broad set of data management tools
NEW Expanded Vision for Autonomous Database
Empowering innovators with new self-service data management tools
NEW Self-Service Tools for Autonomous Database
From data to insights with built-in self-service data tools

NEW Load
Simple drag & drop loading

NEW Transforms
Declarative transformations and data cleansing

NEW Business Model
Automatically create powerful business models

NEW Insights
Guided discovery of hidden patterns and anomalies

NEW Model
Easily create models with AutoML

NEW Deploy
Integrate ML models into apps via REST or SQL

NEW Graph Analysis
Discover related connections and patterns

Low-Code AppDev
Build, deploy and manage data-driven applications

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Self-Service Data Loading From Anywhere

Simple ‘Drag and Drop’ Data Loading

- Files on local computer
- Files in Object Storage (incl AWS S3, Azure Blob Storage, Google... + AWS-S3 compliant store)
- Oracle Databases (on-prem and cloud)
Self-Service Zero-Code Data Transforms

Declarative, zero-code
New, easy-to-use cloud UI
‘Drag and Drop’ to create Maps

Rich set of transformation operators
Transform, Quality, Analytic, Spatial, ML
All DB Operators

Autonomous discovery
Discover relationships, recommend actions
Auto code generation
Auto-Insights – Data Discovery Driven by Machine Learning

Automatic Insight Discovery
• Discovers hidden patterns and outliers
• Crawl over business model, running as background process
• Variety of algorithms including singular value decomposition
Key Advances In Machine Learning For Everyone

**NEW** support for Python and R
  - Use Python, R, and SQL side-by-side
  - Leverage database-native algorithms from Python and R

**NEW SELF-SERVICE** machine learning (AutoML)
  - No-code user interface for creating, managing, and deploying ML models
  - Based on Oracle Labs AutoML
  - *Available shortly*

Multiple algorithms compared and best is selected
**Self-Service Tools for LoB Developers**
Modern tools to build data-driven apps fast with APEX

**Built-in Application Express (APEX)**
- Simple low-code web-based app development and execution
- Intuitive interface guides developers through creation of powerful apps
- Extensive library of pre-built components
  - Powerful components enable high-level of functionality with almost zero coding
- Eliminates 98% of hand coding

**Built-in REST Data Services (ORDS)**
- Makes database access from applications super simple by automatically building REST interfaces to database tables and procedures

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*https://apex.oracle.com/en/platform/low-code/intro/*
Oracle Autonomous Database
Integrated cloud data service to empower business innovators

- Data Load
- Business Modeling
- Transform
- Data Insights
- Graph Analysis
- Spatial Analysis
- Machine Learning
- Low-Code AppDev