**ORACLE
AUTONOMOUS
DATA WAREHOUSE**

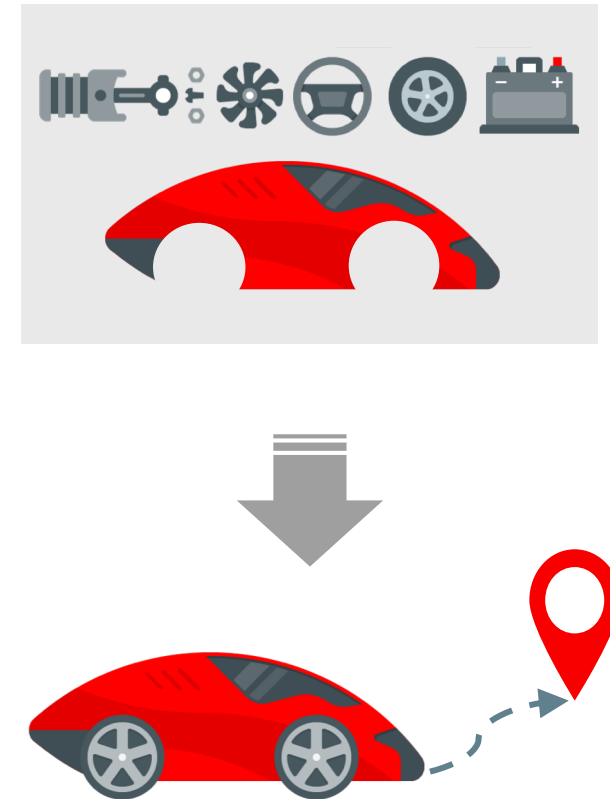# The Vision

ORACLE®
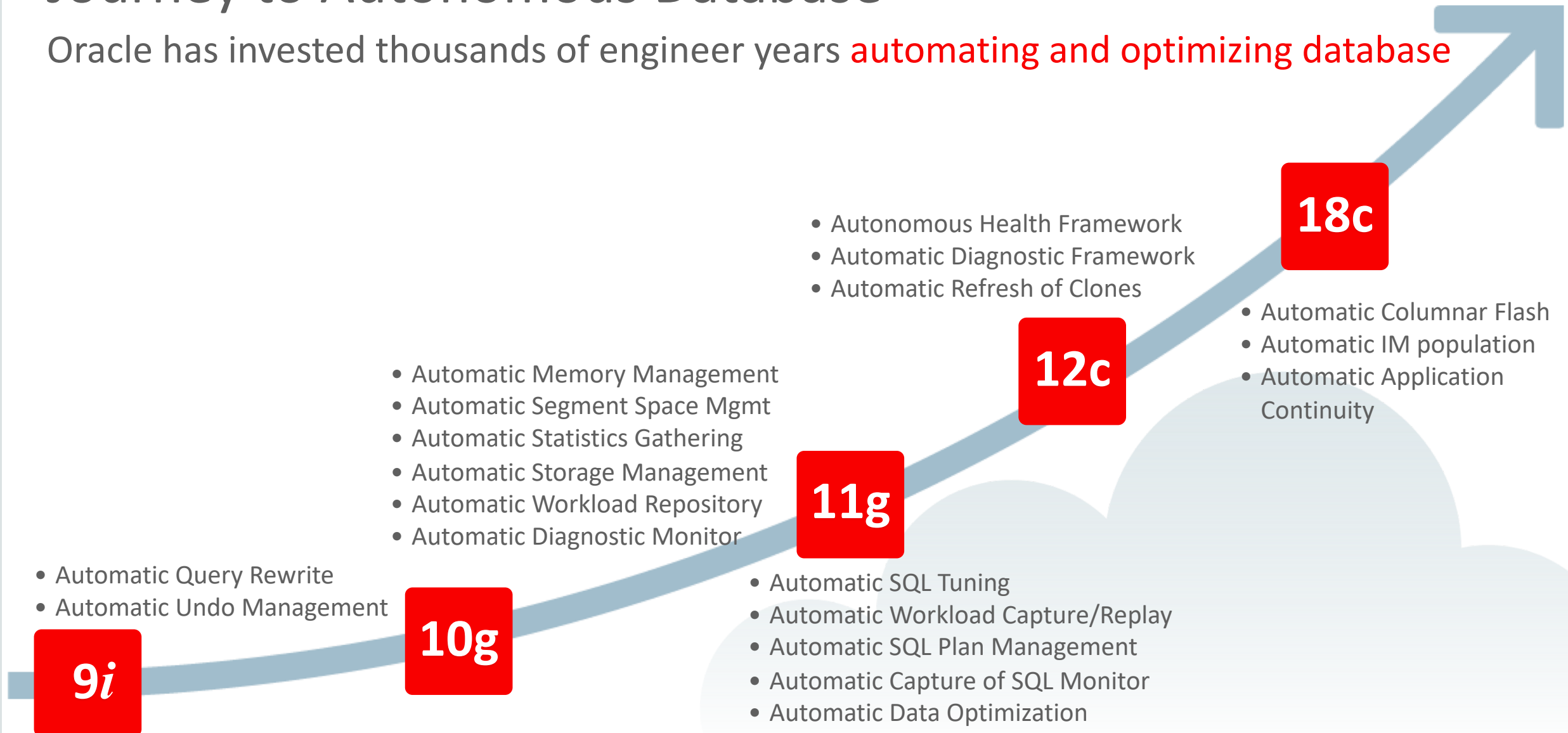
Oracle Autonomous Database Revolutionizes Data Management

- Transform from database builder and maintainer to user of autonomous database services
  - **Automates everything**: provisioning, securing, repairing, tuning, driving, and more ….
  - Easy to create new databases **and** transform existing ones

- Enables you to:
  - Innovate faster, spend less, and ensure data safety
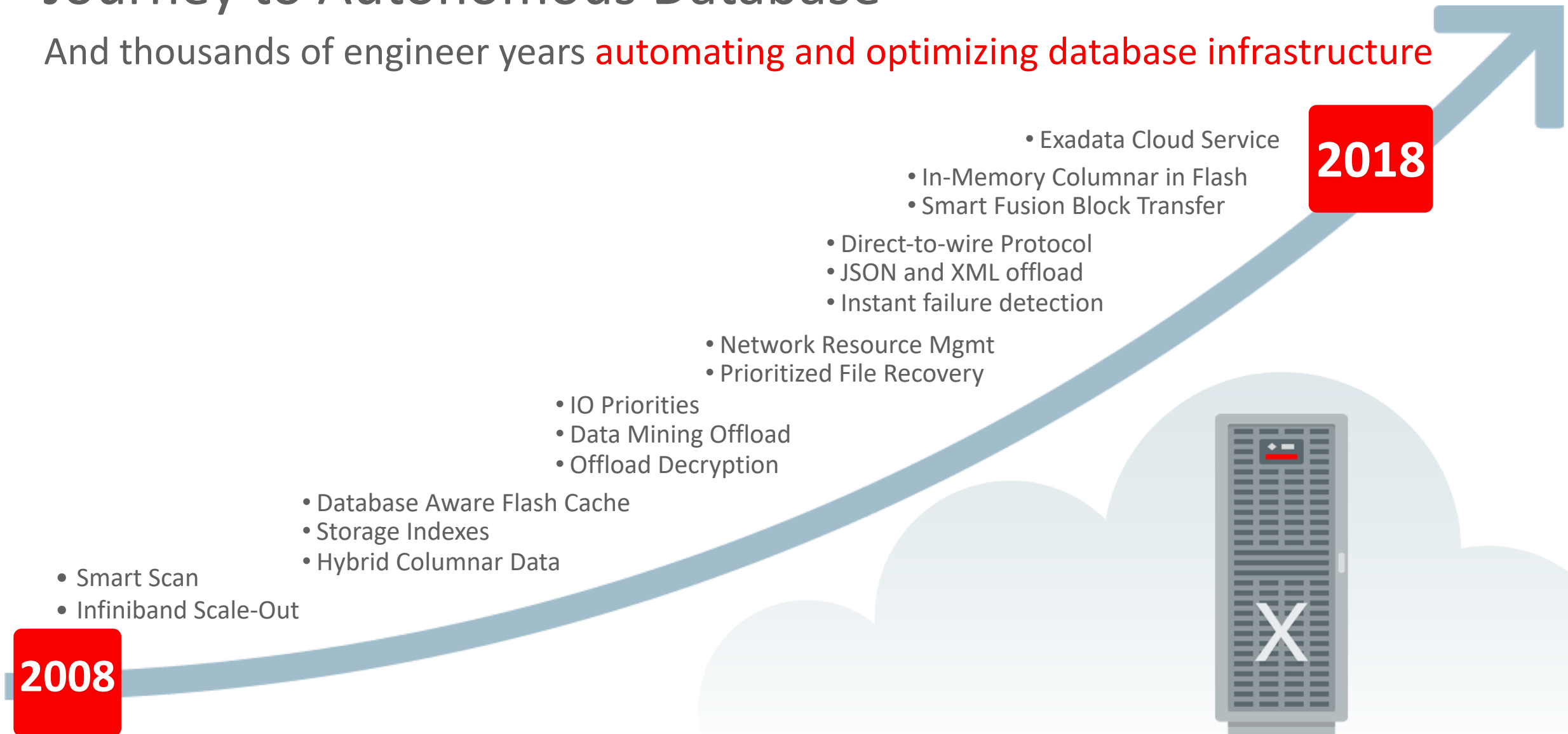 - Transform your I.T. to modern cloud model

Journey to Autonomous Database

Oracle has invested thousands of engineer years **automating and optimizing database**
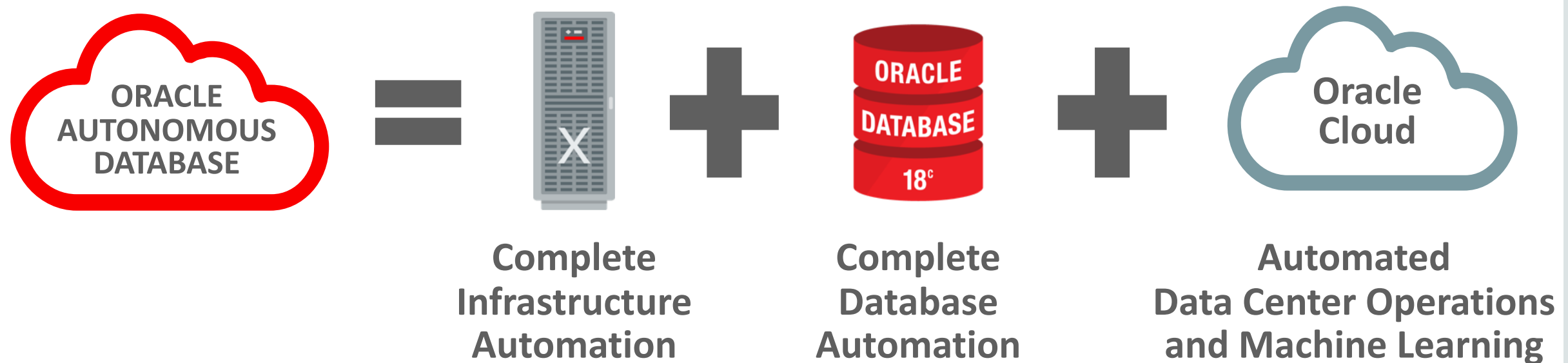
18c
- Autonomous Health Framework
- Automatic Diagnostic Framework
- Automatic Refresh of Clones
- Automatic Columnar Flash
- Automatic IM population
- Automatic Application Continuity

12c

11g
- Automatic Memory Management
- Automatic Segment Space Mgmt
- Automatic Statistics Gathering
- Automatic Storage Management
- Automatic Workload Repository
- Automatic Diagnostic Monitor

- Automatic SQL Tuning
- Automatic Workload Capture/Replay
- Automatic SQL Plan Management
- Automatic Capture of SQL Monitor
- Automatic Data Optimization

10g

- Automatic Query Rewrite
- Automatic Undo Management

9i

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Journey to Autonomous Database

And thousands of engineer years automating and optimizing database infrastructure

2018

- Exadata Cloud Service
- In-Memory Columnar in Flash
- Smart Fusion Block Transfer

- Direct-to-wire Protocol
- JSON and XML offload
- Instant failure detection

- Network Resource Mgmt
- Prioritized File Recovery

- IO Priorities
- Data Mining Offload
- Offload Decryption

- Database Aware Flash Cache
- Storage Indexes
- Hybrid Columnar Data

- Smart Scan
- Infiniband Scale-Out

2008

Autonomous Completes the Journey
Brings Full Automation to Entire Database Lifecycle

ORACLE AUTONOMOUS DATABASE = **Complete Infrastructure Automation** + **Complete Database Automation** + **Automated Data Center Operations and Machine Learning**

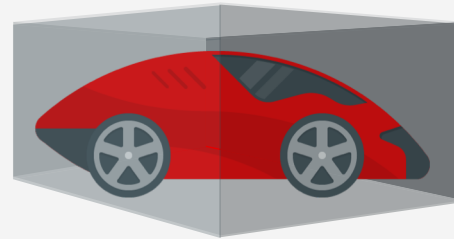**World's First Autonomous Database**

How It Works

Full Database Lifecycle Automation

Provision

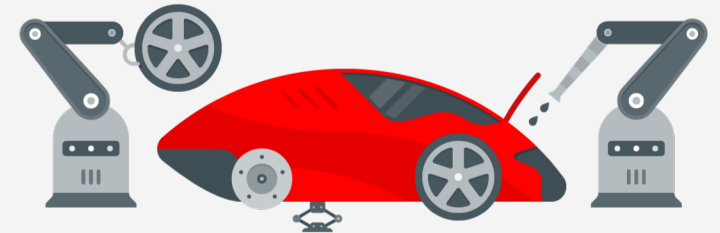Rapidly and easily creates mission critical databases

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Creates **Exadata**[+] Cloud Infrastructure, **Real Application Clusters**[+] scale-out database

Secure

Protects data from all external and internal threats

Continuous threat detection, Applies security **updates online**[+], prevents admin snooping, **encrypts** all data
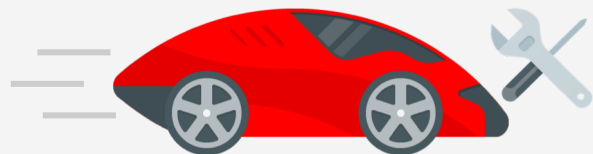
Manage

Automates all infrastructure and database maintenance

Patches all software **online**[+], tunes settings, performs **all OS and SYSDBA** operations
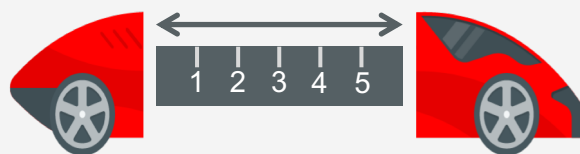
[+] Unique to Oracle

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Full Database Lifecycle Automation

Protect

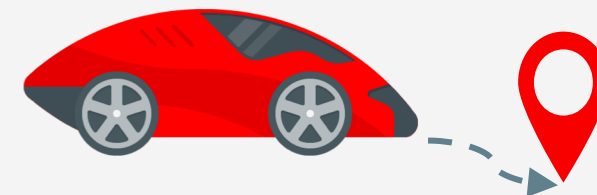Recovers from any failure without downtime

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Automates backup, restore, **application transparent**[+] cluster failover, diagnoses and repairs **errors**[+]

Scale

Scales online for highest performance and lowest cost

Instant online elasticity[+] of **serverless** compute and storage enables **true pay-per-use**[+]

Optimize

Optimally runs workloads without human direction

Automatically optimizes **data formats**, **parallelism**[+], memory, and plans for each workload

[+] Unique to Oracle

One Autonomous Database - Optimized by Workload

ORACLE AUTONOMOUS DATABASE

Available March 2018

Available August 2018

Autonomous Data Warehouse (ADW)

Best for all Analytic Workloads:
- Data Warehouse, Data Mart
- Data Lake, Machine Learning

Autonomous Transaction Processing (ATP)

Best for TP and Mixed Workloads:
- Transactions, Batch, Reporting, IoT
- Application Dev, Machine Learning

ORACLE®