



ORACLE

Modernize without Compromise

The Modern Data Warehouse Summary & Next Step

TCE Team

Sep, 2020

Safe harbor statement

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데이터를 최대한 활용하려면 고객에게 4 가지가 필요합니다.

#1

**Complete
Integrated
Solution**



#2

**Easy to
Start**



#3

**Easy to Operate
and Secure**



#4

**Easy to
Analyze**





#1

Complete Integrated Solution

Modern Data Warehouse Components



INTEGRATION

Streaming, batch data, both on-premises and in the cloud



DATA WAREHOUSE

Autonomous, self-driving, self-securing, self-repairing



DATA LAKE

Object storage-based data lake, integrated access with DW



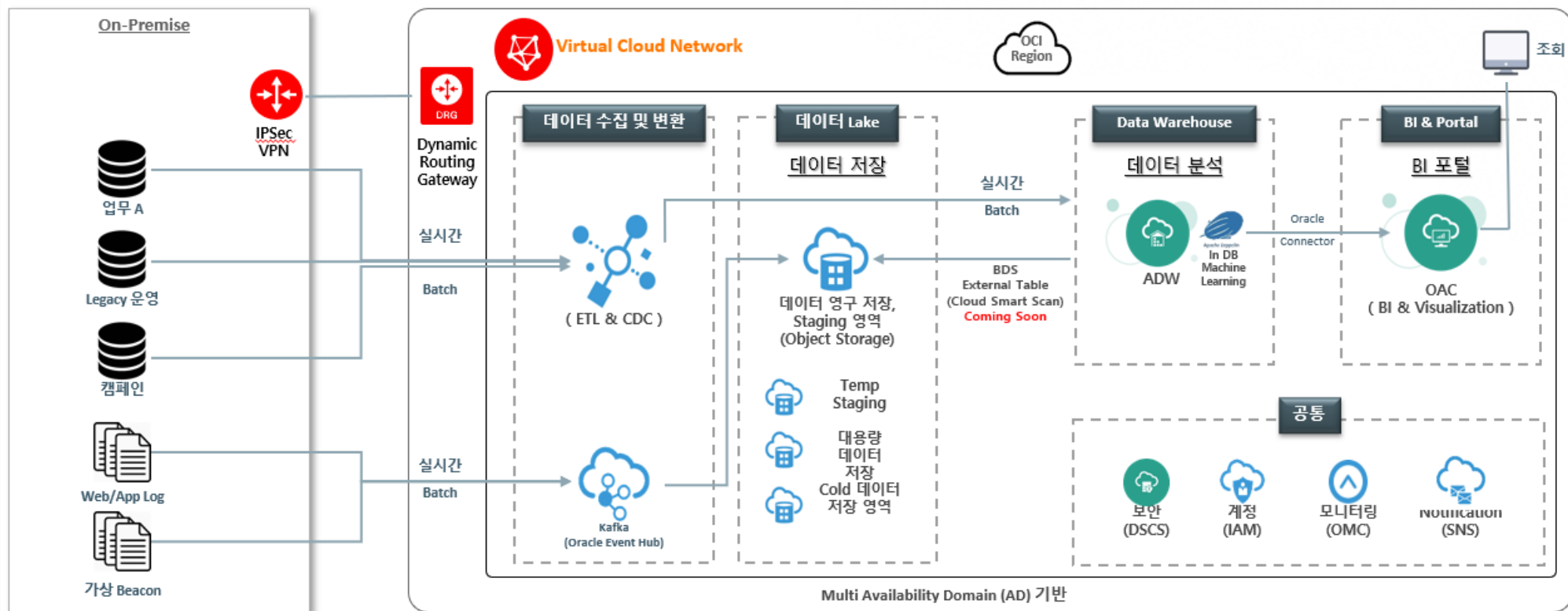
ANALYTICS

ML-based analytics and visualization; Automatic narration



DATA SCIENCE

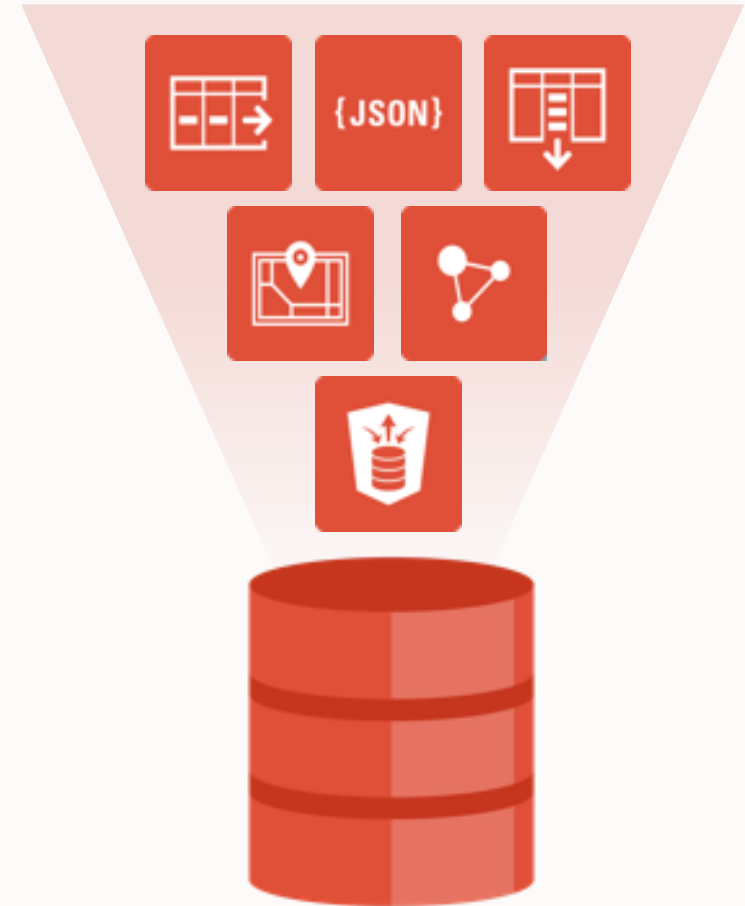
Machine learning general purpose and in-database



Autonomous Data Warehouse

The Only Converged Data Warehouse

- 여러 데이터 유형에 대한 통합 지원 – No Silos
 - Relational, JSON, XML, graph, spatial, OLAP
- 다양한 업무형태 가능
 - Transactions, analytics, machine learning, in-memory, IoT, streaming, blockchain
- Data Lake에 있는 데이터도 DB 처럼 Query 가능 사용
- 다양한 형태의 데이터 처리도 하나의 Database로 수렴
(많은 처리 Engine이 필요하지 않음)



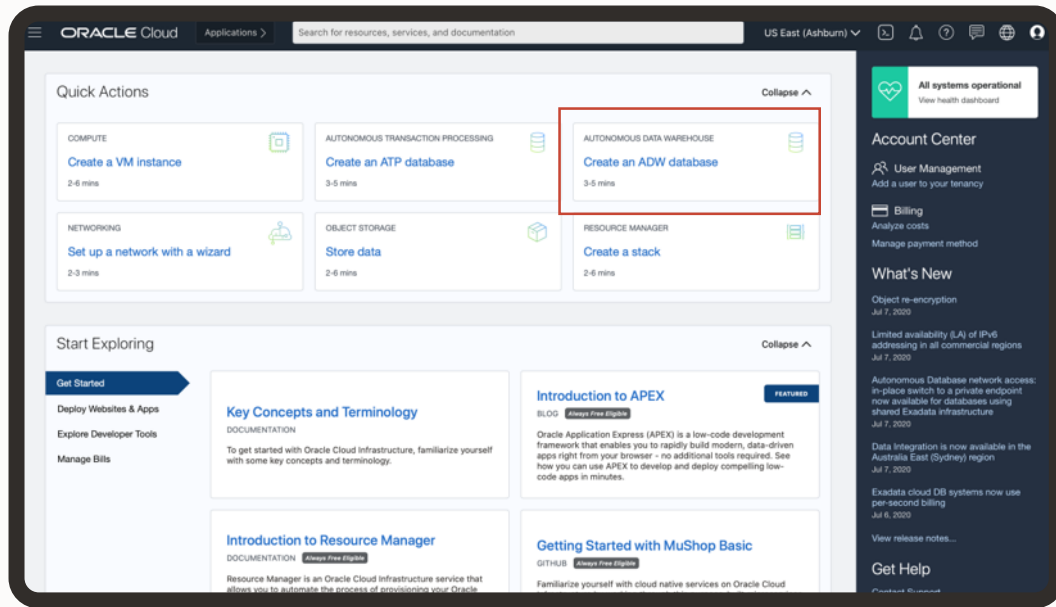


#2

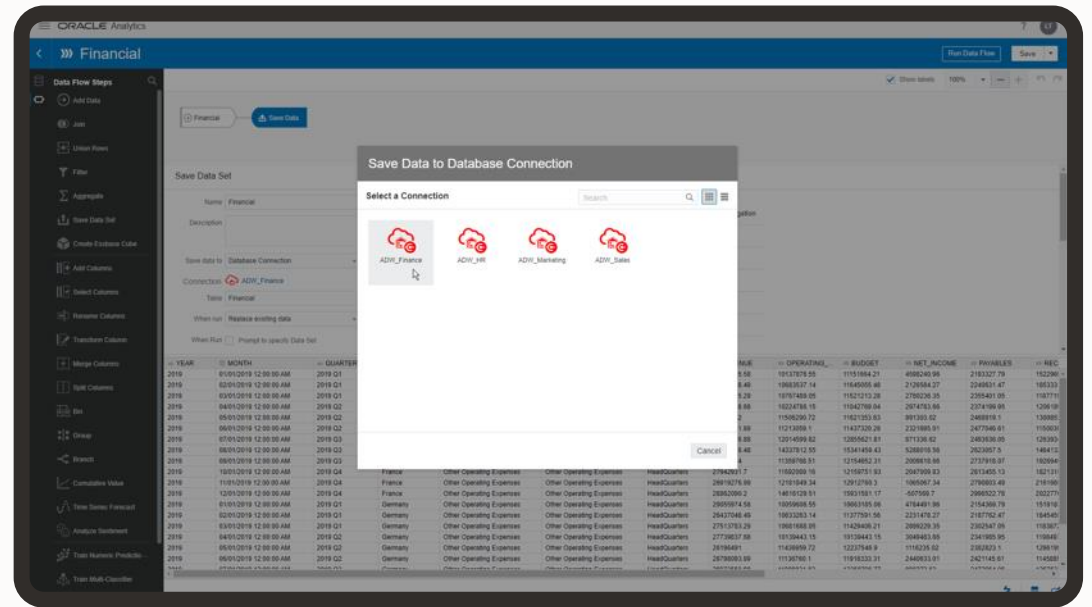
Easy to Start

IT 비 전문가가 Data Warehouse를 만드는데 몇 분이면 됩니다.

Create Autonomous Database



Load data into ADW



Create Autonomous Database

1

Create Autonomous Database

Provide basic information for the Autonomous Database

Choose a compartment

Display name

Database name

The name must contain only letters and numbers, starting with a letter. Maximum of 14 characters.

3

Username READ-ONLY

Password

Confirm password

Choose a license type

Bring Your Own Licence

My organization already owns Oracle database software licenses. Bring my existing database software licenses to the database cloud service ([details](#)).

License Included

Subscribe to new database software licenses and the Database cloud service.

2

Choose a workload type

Data Warehouse

Configures the database for a decision support or data warehouse workload, with a bias towards large data scanning operations.

Transaction Processing

Configures the database for a transactional workload, with a bias towards high volumes of random data access.

Configure the database

CPU core count

The number of CPU cores to enable. Available cores are subject to your tenancy's service limits.

Storage (TB)

The amount of storage to allocate.

Auto scaling

Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more.](#)

4



PROVISIONING...



AVAILABLE



Load data into ADW

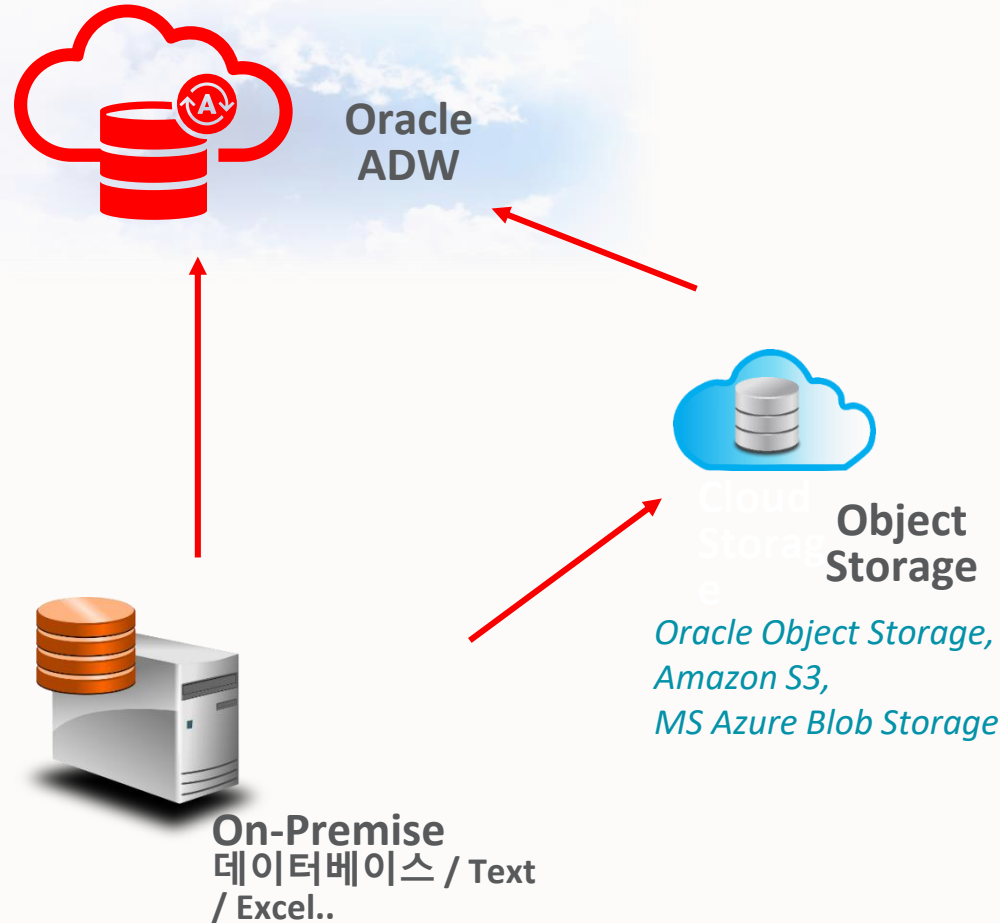
Leverage Existing Oracle Skills

1 직접 로딩

- 로컬 Text 파일을 직접 ADW로 로딩
- 방법
 - SQL*Loader
 - SQL Developer
 - 오라클/3rd Party ETL 솔루션

Data Integration Tool

- ETL
- CDC

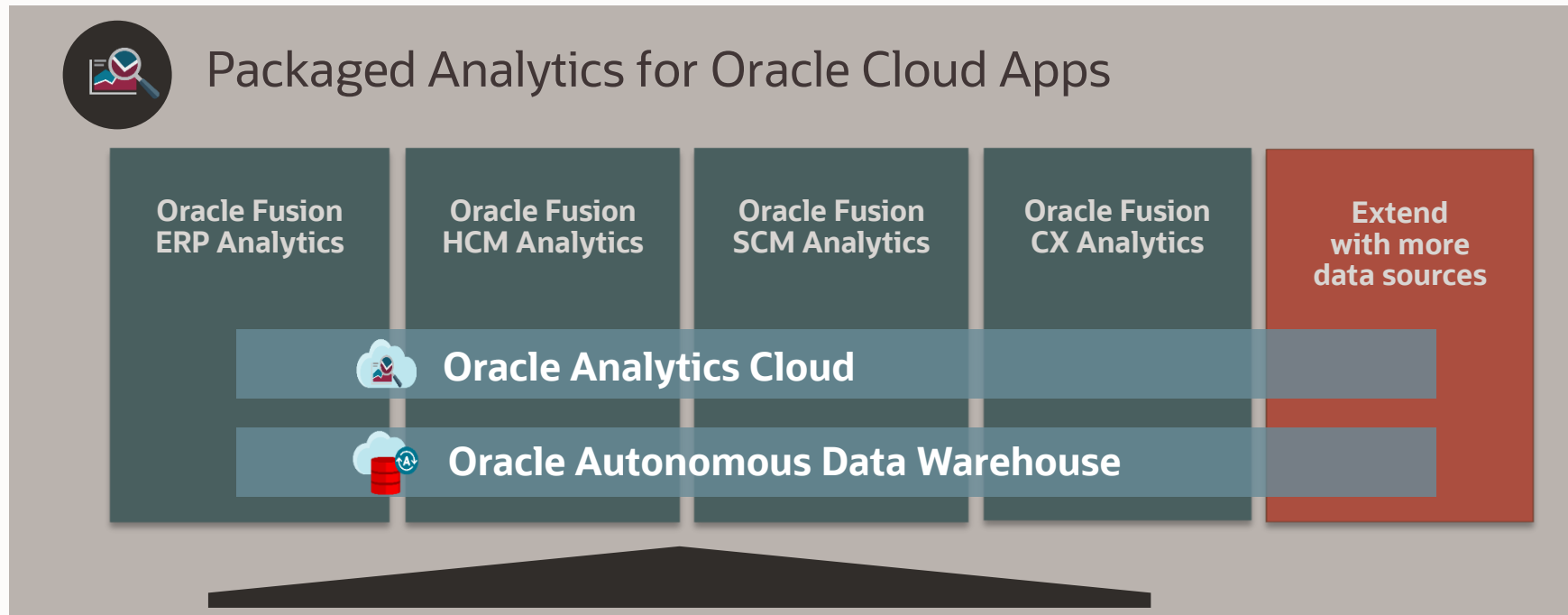


2 간접 로딩

- Object Storage를 경유하여 ADW로 로딩
 - Oracle Pump 파일 (Data Pump)
 - Text 파일 (DBMS_CLOUD)
- 방법
 - CLI 또는 scripting
 - SQL Developer
- 대용량 데이터의 초기 로딩에 적합

Fusion Analytics Warehouse

Oracle Cloud HCM and ERP customers get a complete solution in a few clicks



Packaged Analytics for Oracle Cloud ERP, HCM, CX, and SCM Applications

Fully extensible & customizable with Oracle's Data and Analytics Platform



Oracle Cloud Applications

Non-Oracle
Cloud Apps
and other
external data
sources





#3

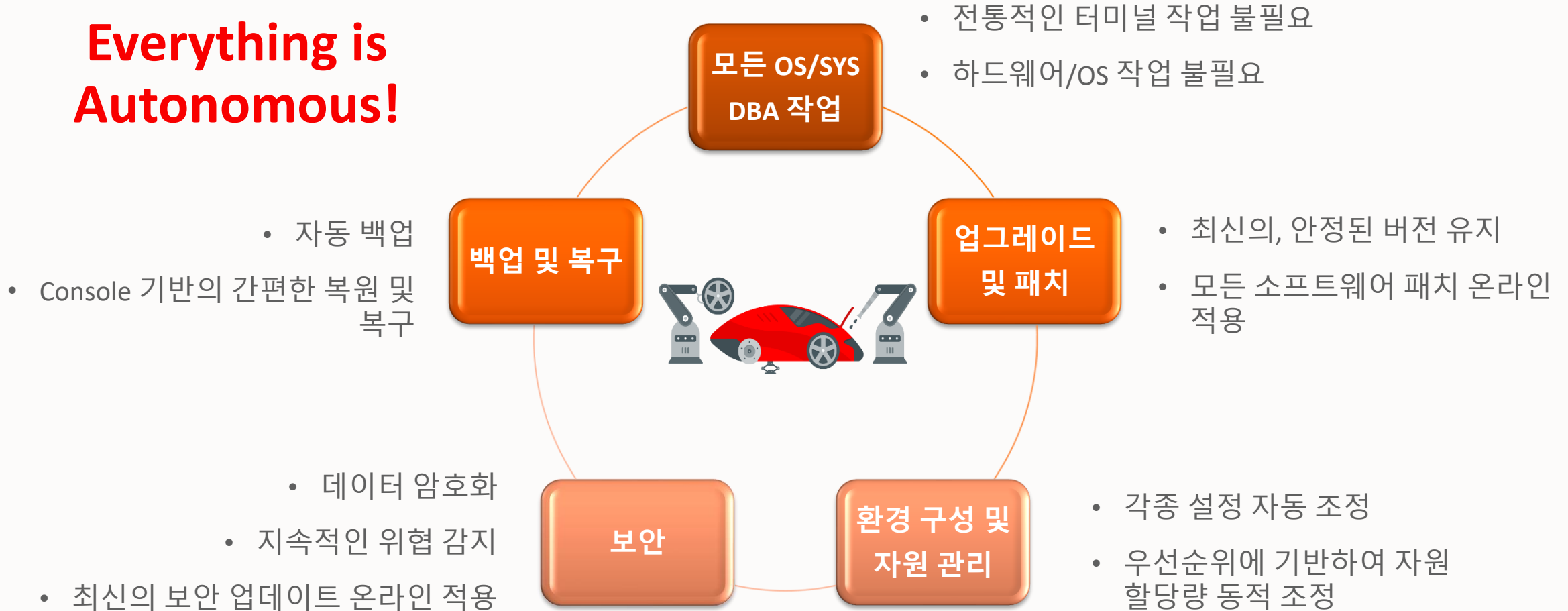
Easy to Operate and Secure



Autonomous Data Warehouse

Uses machine learning to eliminate management complexity

Everything is Autonomous!



Autonomous Data Warehouse

Elastic Auto-Scaling

True Pay-As-You-Go

- **딱 필요한 만큼의 OCPU와 Storage로 사이징**
 - OCPU와 Storage는 독립적으로 설정
 - Pricing: OCPU (\$/OCPU/hour) & Storage (\$/TB/Month)
- **On-Demand 방식으로 데이터베이스 증설/축소**
 - 증설 및 축소는 즉시, 온라인으로 수행 (**무중단**)
 - 사용하지 않을 때에는 서비스를 Shut Off → No Charge
- **Auto Scaling**
 - 사용자는 Base OCPU를 설정
 - Workload에 따라 자동으로 조정: Base X 3 이내

Scale Up/Down [help](#) [cancel](#)

CPU CORE COUNT STORAGE (TB)

2 1

The number of CPU cores to enable. Available cores are subject to your tenancy's service limits.

The amount of storage to allocate.

AUTO SCALING

Enabling auto scaling allows Oracle to use upto 3 times the number of OCPUs for processing workload if required. [Learn more](#).

Update

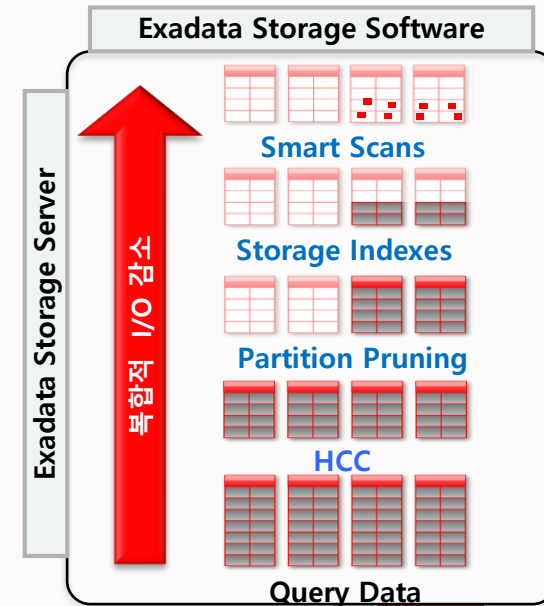
Fast Queries - The only vendor with automated tuning

Machine Learning Continuously Optimizes for Each Workload

- Parallel 이 기본 적용 - 할당 CPU 가 증가할 수록 Parallel 도 증가
- HCC 압축이 기본 적용 - SQL 수행시 사용 Block 적음으로 대용량 조회시 더 빠른 조회 속도
- DB 통계 수집이 기본 적용 - 자동으로 DB 통계수집을 수행함으로 최적의 SQL 실행계획을 생성
- Exadata I/O 감소 기술 기본 적용 - Smart Scan, Storage Index 및 Storage Flash Cache 를 사용한 고속 I/O 연산

Runs on Exadata: World's Fastest Database Platform

- Fastest storage using latest NVMe flash and Persistent Memory (Coming Soon)
- Fastest network communication – RDMA
- Smart offload of queries to columnar cache in Exadata Storage cells



Autonomous Data Warehouse

Comprehensive Data Security

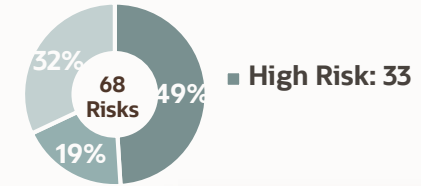
Automated Security

- 모든 데이터는 암호화(default)
- 고객 이외에 오라클 직원을 포함 누구도 접근 못함.
- 보안관련 Update 및 Patch는 자동화 (On-Line)

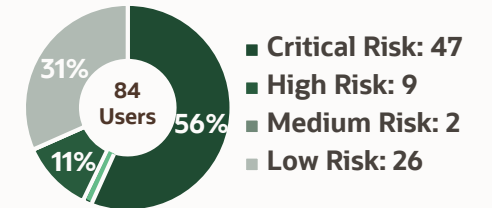
사용자가 Control 할수 있는 Tool 제공 - Data Safe

- 사용자가 직접 Risk 관리
- 데이터에 접근 기록 및 권한 부여 Auditing
- 민감 데이터의 Masking
- Database 이외에 Data Lake 까지 확장된 보안 정책 적용

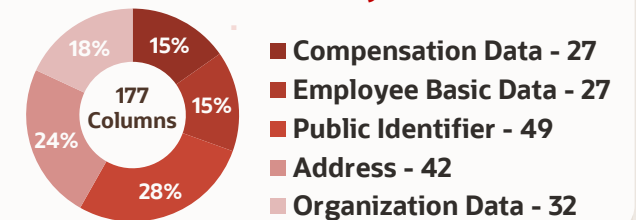
Security Assessment



User Assessment



Data Discovery





#4

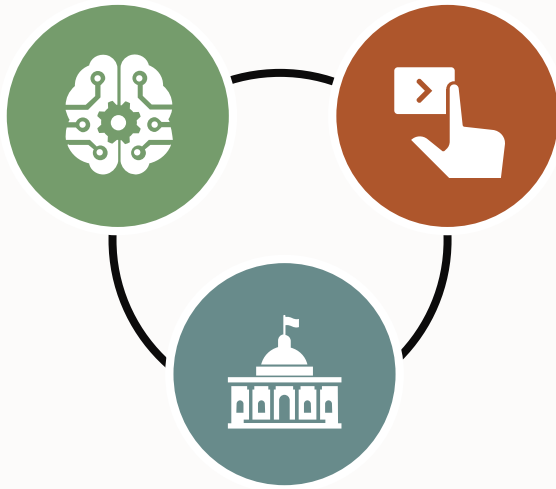
Easy to Analyze

Connect to Modern BI Tools such as Oracle Analytics Cloud

The industry's most comprehensive analytics platform

Augmented
(AI/ML 새로운 기술)

Self-Service
(분석 자율성)



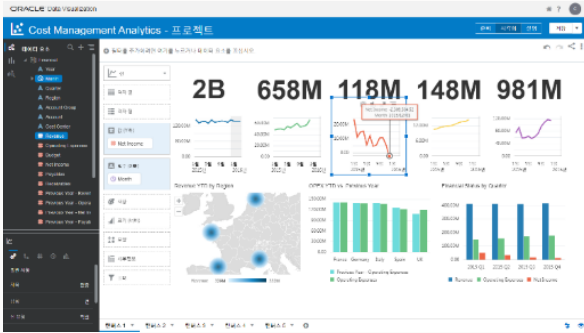
Governed
(분석 관리성)



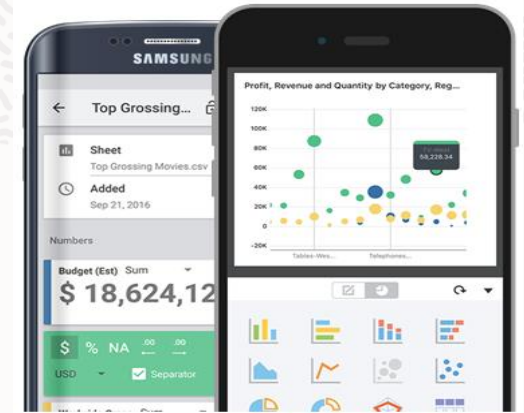
협업, 공유, 통제관리...



Compatible with Popular 3rd Party Tools



Oracle
ADW



Power BI

Cognos.
software



Oracle Analytics
Cloud



SQL Developer

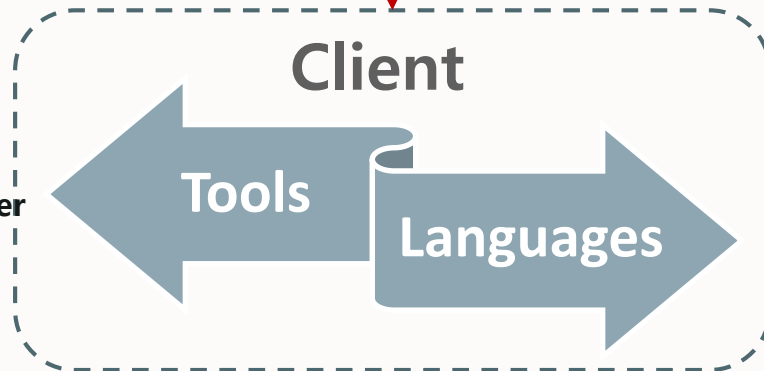


Oracle DVD

SQL*Plus: Release 18.0.0.0.0 - Pr
Version 18.3.0.0.0
Copyright (c) 1982, 2018, Oracle.



SQL*Net



ORDS
(Coming soon)



PROGRAMMING
Language



Tools for ML / Data Scientists - Cloud

ADW의 ML

OAC의 ML

Data Science

영업 데이터 기반의 연관관계 분석 작업 수행 FINISHED ▶ 🔍 🗨

```

%script
BEGIN
  DBMS_DATA_MINING.CREATE_MODEL(
    model_name => 'AR_SH_SAMPLE',
    mining_function => DBMS_DATA_MINING.ASSOCIATION,
    data_table_name => 'sales_trans_cust',
    case_id_column_name => 'cust_id',
    settings_table_name => 'ar_sh_sample_settings'
  );
END;
    
```

PL/SQL procedure successfully completed.

Took 5 sec. Last updated by OML at April 03 2019, 2:37:51 PM. (outdated)

- SQL 기반
- 다양한 알고리즘 및 분석 기능 사용가능
- 대용량 데이터 분석 가능
- DB 내장 병렬 수행

- GUI 기반
- 정의된 알고리즘 사용가능
- OAC 가 허용하는 데이터 양 기준
- OAC 내장 (Python 기반)



- 산재되어 있는 데이터의 분석 작업에 적합
- Python 오픈 소스 알고리즘 & 프레임 워크
- 확장 및 조직간의 협업이 가능한 인프라
- AutoML 적용 / AI,ML과 같은 기술이 포함



With Oracle Cloud you can Modernize without Compromise

- Complete solution
- Converged database
- Self-serve user experience
- Comprehensive data security
- Supports popular 3rd party tools
- Automated tuning
- Automated truly elastic scaling
- Deploy solution in customer or public datacenter

	Oracle Cloud	AWS	Snowflake
Complete solution	✓	✓	✗
Converged database	✓	✗	✗
Self-serve user experience	✓	✓	✓
Comprehensive data security	✓	✗	✗
Supports popular 3 rd party tools	✓	✓	✓
Automated tuning	✓	✗	✗
Automated truly elastic scaling	✓	✗	✗
Deploy solution in customer or public datacenter	✓	✗	✗



We provide the capabilities customers need to innovate with data

#1



**Complete
Integrated
Solution**



#2



**Easy to
Start**



#3



**Easy to Operate
and Secure**



#4



**Easy to
Analyze**



ADW Hands On Workshop



- 교육에 참석한 고객에게는 일정기간 무료 사용 계정 부여
- Hands On 교재 제공 (Sample Data Set & PPT)
- 교육에 필요한 모든 환경 제공
- 필요시 고객사 방문 진행

Time	Duration	Agenda	
13:30 - 13:35	5min	Opening	핸즈온 목표 및 아젠다 소개
13:35 - 14:05	30min	Presentation	오라클 자율운영 데이터 분석 플랫폼 소개(ADW, OAC)
14:05 - 14:20	15min	Hands-on (OAC Intro)	[OAC 둘러보기 및 데이터 확인하기] - 핸즈온 시나리오 설명 - OAC 홈 화면 : OAC 메뉴 설명 - ADW Connection 설명 - 데이터셋 내용 설명
14:20 - 14:35	15min	Hands-on (ADW Intro)	[ADW 둘러보기] - ADW 생성하기 - ADW service Console 서비스 둘러보기 - Scale up&down 실습
14:35 - 14:45	10min	Break	
14:45 - 16:15	1h 30m	Hands-on (Visualization)	[대시보드 만들기 : 데이터 분석하여 인사이트 도출하기] - Data Preparation : 데이터 정제 실습 - Data Visualization : 대시보드 만들기 실습 - 외부데이터 결합 분석 실습
16:15 - 16:30	15min	Break	
16:30 - 17:30	1h	Hands-on (ML)	[머신러닝 실습]
17:30 - 17:35	5min	Outro	마무리 및 Trial 계정 사용 안내 / 설문조사

