



# First Step to Cloud

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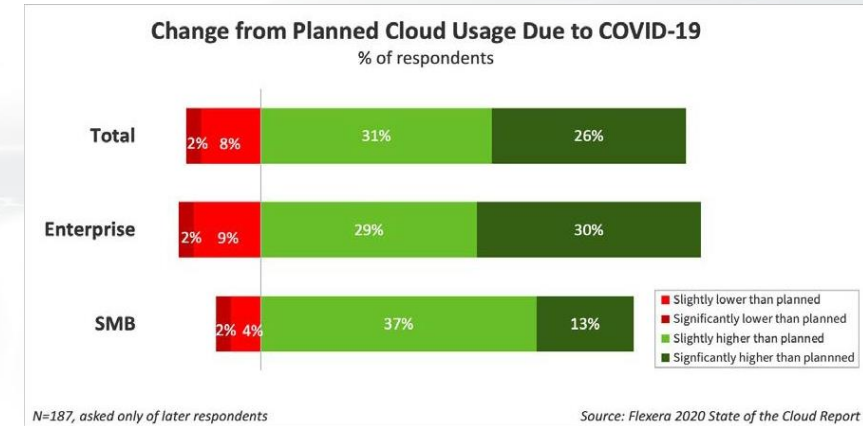
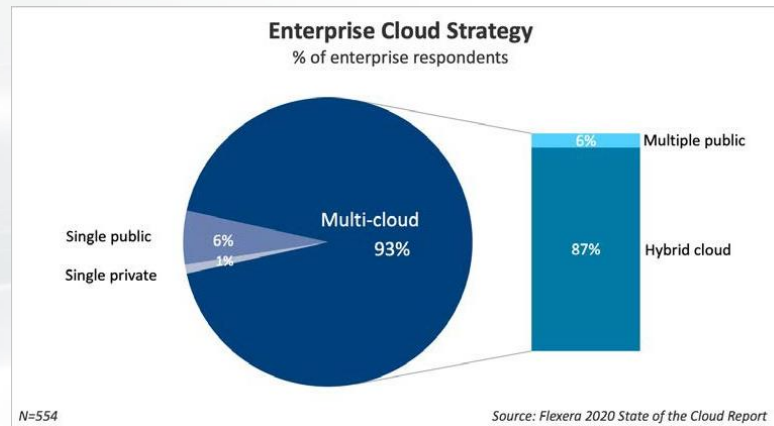
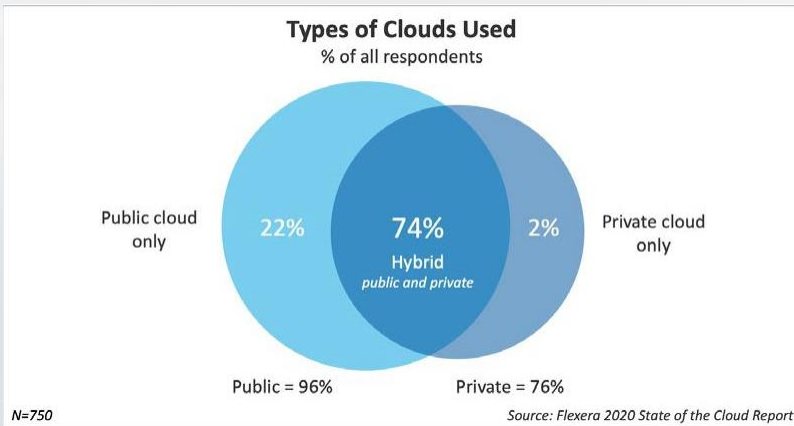
# Cloud Trend

## ENTERPRISE CLOUD STRATEGY

**96%** utilizing at least one **public cloud**

**93%** having a **multi-cloud** strategy

**COVID-19** increase cloud usage



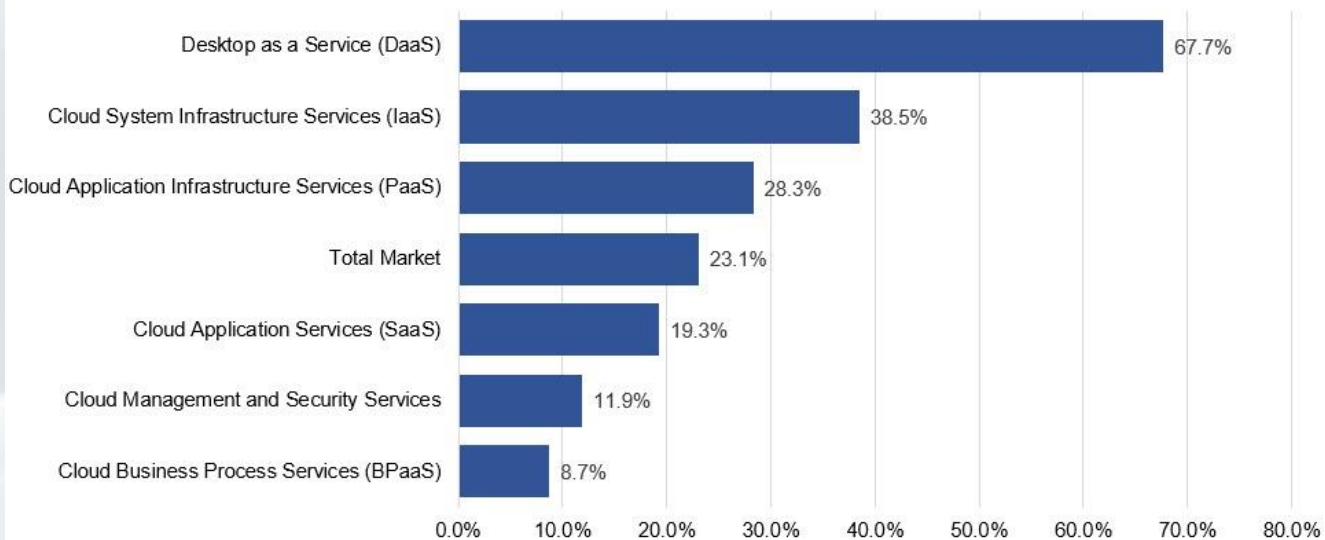
Source: Flexera 2020 State of the Cloud Report, April 2020

# Global Spending on Cloud - Gartner

- Worldwide end-user spending on public cloud services is forecast to grow 23.1% in 2021 to total \$332.3 billion, up from \$270 billion in 2020.
- Software as a service (SaaS) remains the largest market segment and is forecast to reach \$122.6 billion in 2021 as the demand for composable applications requires a different type of SaaS experience.
- Infrastructure-as-a-service (IaaS) and desktop-as-a-service (DaaS) will see the highest growth in 2021, 38.5% and 67.7%.
- “It will further evolve from serving pedestrian use cases such as infrastructure and application migration, to those that combine cloud with technologies such as artificial intelligence, the Internet of Things, 5G and more.” Said Mr. Sid Nag research vice president at Gartner

**How Fast Public Cloud Services Are Growing, 2020 - 2021**

Source: Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 23% in 2021

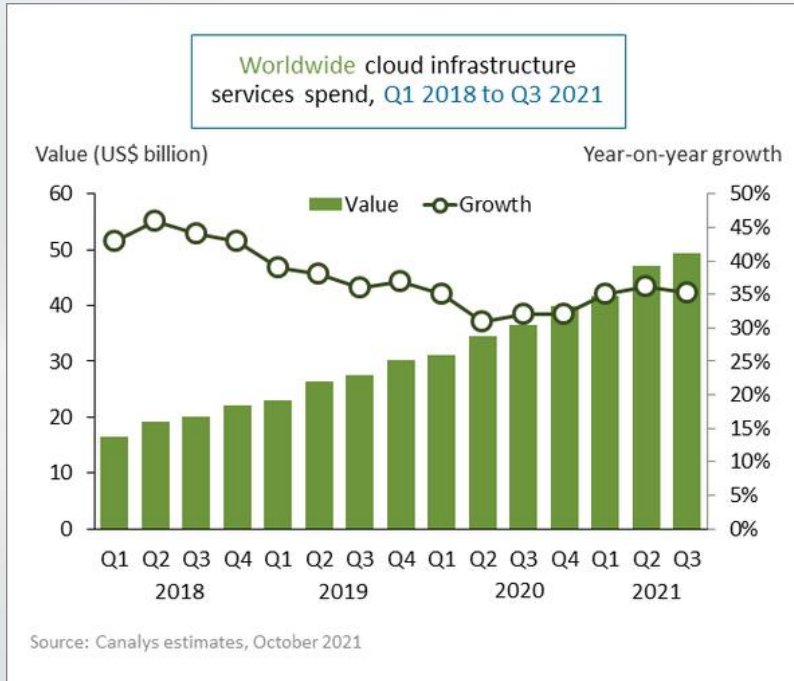


Worldwide Public Cloud Services End-User Spending Forecast (Billions of USD)	2020	2021	2022
Cloud Business Process Services (BPaaS)	46.1	50.2	53.1
Cloud Application Infrastructure Services (PaaS)	46.3	59.5	71.5
Cloud Application Services (SaaS)	102.8	122.6	145.4
Cloud Management and Security Services	14.3	16.0	18.0
Cloud System Infrastructure Services (IaaS)	59.2	82.0	106.8
Desktop as a Service (DaaS)	1.2	2.0	2.7
<b>Total Market</b>	<b>270.0</b>	<b>332.3</b>	<b>397.5</b>

Source: Gartner Forecasts Worldwide Public Cloud Revenue, April 2021

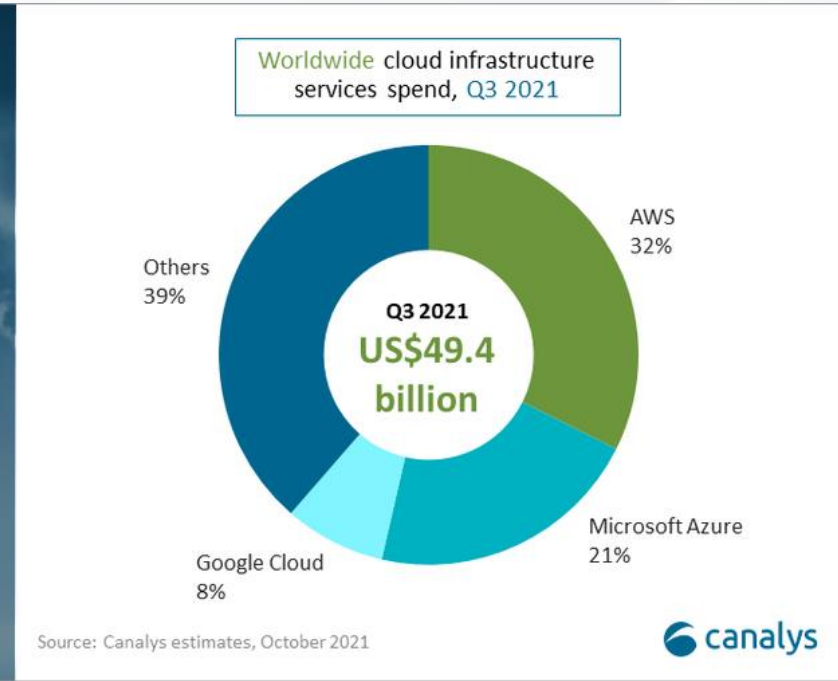


# Global Cloud Infrastructure Market



Worldwide cloud infrastructure spend grew 35% year on year to US\$49.4 billion in Q3 2021

The top three cloud service providers accounted for 61% of total cloud spend in Q3 2021

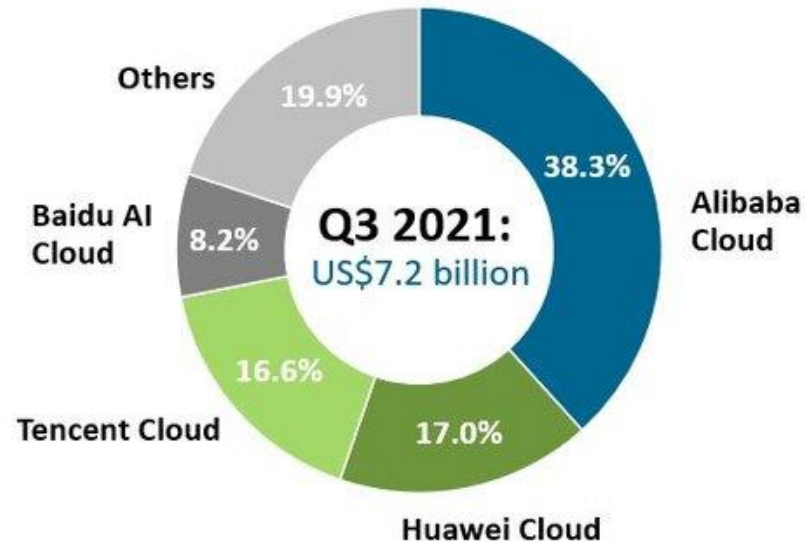


- Cloud services spending is still being affected by the digital transformation efforts required to maintain business continuity during pandemic-related disruptions.
- The major cloud services providers have emphasized geographic data center expansion to meet rising demand.

# China Cloud Infrastructure Market

Q3 2021  
cloud infrastructure  
spend in mainland  
China grew 43% to  
US\$7.2 billion, up  
US\$2.2 billion on  
Q3 2020

China cloud infrastructure services spend



Source: Canalys estimates, December 2021



- **Alibaba** and **Tencent** have begun international expansion with an emphasis on Southeast Asia.
- Both **Alibaba** and **Tencent** are launching new data centers in Indonesia, Thailand and South Korea.
- **Huawei** Cloud has added new availability zones in Thailand to grow its portfolio of services in Singapore, Hong Kong and Malaysia.

# Reference Case 1: Swire Coca-Cola on AWS

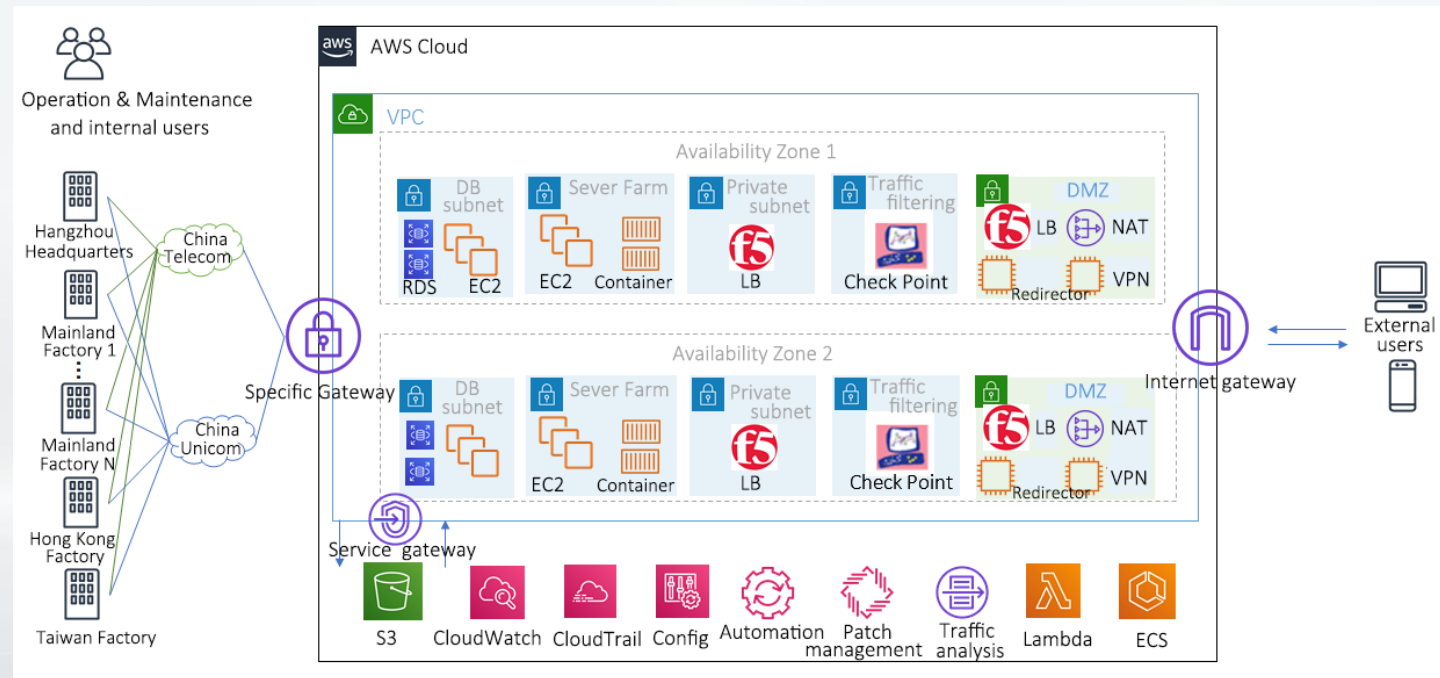


Swire Coca-Cola shut down their data center in Hangzhou and migrated all applications to AWS which save infrastructure costs while providing stable and reliable services through AWS. By migrating their **entire IT infrastructure** to AWS, they achieved digital transformation of their IT systems which can serve millions of retail customers or even hundreds of millions of consumers rather than the previous 10,000 sales representatives.

## Challenge

- **Digitalization:** The company's IT systems need to serve millions or even hundreds of millions of consumers, in addition to its internal employees. They saw a need for a more robust, flexible, and scalable IT architecture to quickly adjust resources in response to rapid changes in the market—especially during promotions, peak, and slower seasons.
- **Lots of system to manage:** In total, they operated three data centers, equipped with minicomputers, X86 servers, high-end storage, network security, management equipment, complete redundancy and disaster recovery architecture, more than 600 servers, and hundreds of systems to support its business.

# Reference Case 1: Swire Coca-Cola on AWS



## Benefit

- **Fast deployment:** The company **can respond to business requirements quickly**. It moves a few months process of preparing software and hardware resources to completed within a few days on the cloud.
- **Enable business growth:** With the **new technology provided by Cloud services** like in-memory database, serverless architecture, IoT, and AI can be quickly deployed to support business development.
- **Reduce O&M complexity:** The migration reduced the operational and maintenance complexity of the underlying architecture, enabling the company to **flexibly expand and dispatch resources** in accordance with demand during peak and slack seasons.



# Reference Case 2: Alipay on Alibaba Cloud

**ApsaraDB for OceanBase** is tested by the challenges of the 11.11 shopping festival for supporting the transactions, payments, and accounts of Alipay. ApsaraDB for OceanBase helps Alipay deploy a high availability architecture across data centers and regions. ApsaraDB for OceanBase also plays an important role in daily operation, emergency drill, and disaster recovery.



## Challenge

- **Consistency:** Consistency is the lifeline of financial businesses. Traditional databases can only provide limited solutions for ensuring consistency when dealing with hardware or system failures, such as the failures of data centers, operating systems, and servers.
- **Scalability:** In scenarios where high concurrency is required, databases are usually scaled out. However, when a traditional database is scaled out, the service is interrupted and the scale-out cost is extremely high.
- **Availability:** Financial businesses require a system availability of 99.99% or higher. Traditional solution like Oracle provides RAC and DataGuard features to ensure high availability. However, these features require long periods of time for disaster recovery.
- **Cost and performance:** For traditional databases, costs include server costs and license costs.



# Reference Case 2: Alipay on Alibaba Cloud

ApsaraDB for OceanBase provides financial-grade consistency:

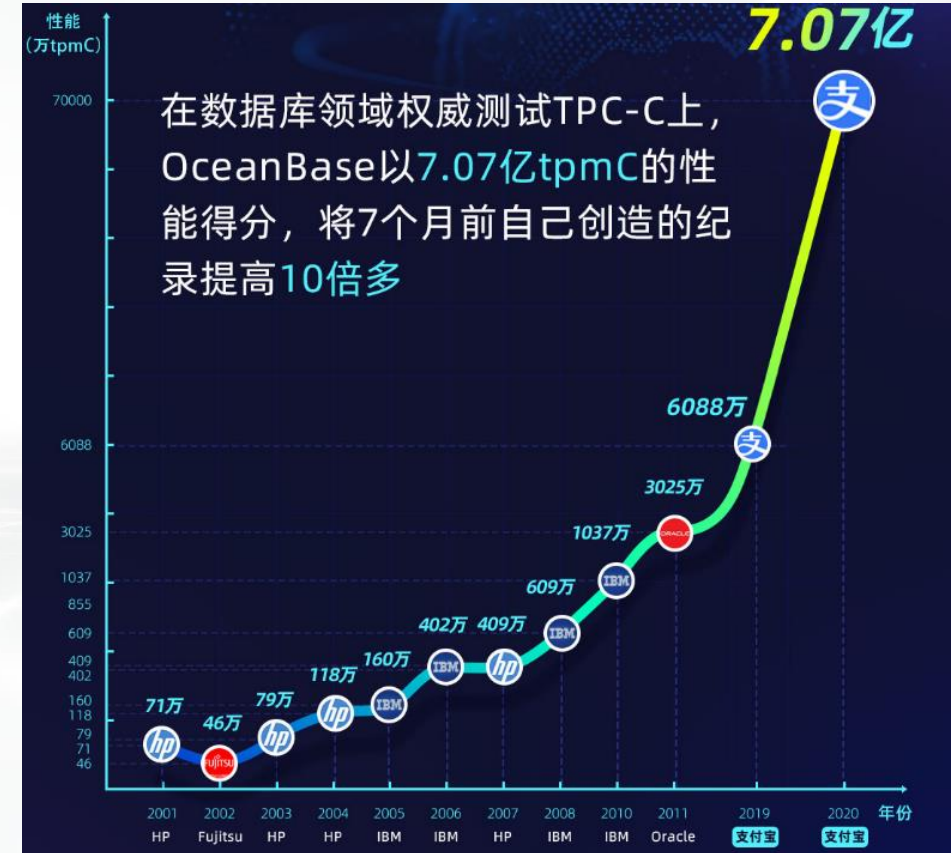
- ✓ Paxos protocol
- ✓ Data verification mechanisms
- ✓ Alipay business model

After put into operation, the DB clusters have been scaled out online through table sharding several times, which can avoid business loss during scaling.

Alipay's ordering business uses the "**Three Centers in the Same City**" architecture, which provides disaster recovery capabilities for a single server or data center.

In the Zone-disaster recovery and geo-disaster recovery scenarios, an **RPO of zero** and an **RTO of less than 30 seconds** have been achieved.

Provides ultra high performance to support the extreme transaction demands.



Source: TPC-C, May 2020

# Market for Cloud Backup

- The Global Cloud Backup Market was valued **US\$ 2.54 billion** in 2019
- Growing at **CAGR of 25.9%** from 2020 to 2027, reaching **US\$ 14.18 billion** by 2027
- **Cloud computing** has brought numerous services and solutions which enable the user **to access the data remotely** and has **driven the demand** for the global cloud backup market
- With **increasing data storage** at large enterprises, the demand for cloud-based services is increasing as it **provides lower costs and greater efficiency**



Source: Verified Market Research™ Jun 2021

# Top Use Cases for Cloud Backup



## Business Continuity

Just minutes of downtime can pose huge costs and consequences for many businesses. With Cloud Backup, business can easily access the files that facilitate its operations, helping **mitigate prolonged downtime**



## Backup Office 365 data

Backing up O365 data, on the other hand, can **safeguard** against **corrupted O365 files, accidental deletion, and other human error**



## Data Redundancy

The **3-2-1 rule** is a best practice for data backup: obtaining at least 3 copies of your data, stored on 2 different media, with 1 copy offsite and in the cloud. It's considered best practice now-a-days for data



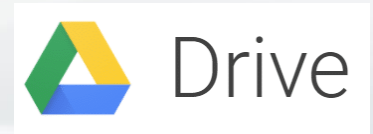
## Audits

For many businesses, having backups that actually run are crucial to **earning the respect and confidence** of prospective customers.

# Cloud Storage & Offsite Backup

## Cloud Storage

- Users can store and share files and folders, and collaborate from any mobile device, tablet or computer.
- The cloud drive is integrated with Microsoft Words, Excel & PowerPoint. The built-in applications allow users to collaborate efficiently in real time, and they can start building and sharing content right away.
- The powerful search function built into the cloud drive can provide users with excellent speed, performance and stability. For example, the "important file storage area" function used AI technology to predict the files users are looking for and list the most relevant content, so that users can search files faster.



## Offsite Backup

- Conduct regular backups of the entire computer or server together with the operating system and important data.
- Multi-level ransomware protection can protect customers from data leakage, reduce downtime and simplify ransomware recovery.
- Deduplication function transfers only unique data blocks to the cloud, thereby optimizing network utilization and reducing storage costs.



# Market for Disaster Recovery as a Service (DRaaS)

- The real-time market size of the market has significantly increased compared to the pre-COVID-19 estimations. The real-time market size reached a revenue of **US\$ 6.7 billion** in 2020.
- The global disaster recovery as a service market is expected to generate a revenue of **US\$ 57.1 billion** by 2026
- Growing rapidly at a **CAGR of 42.9%** during the forecast period 2019-2026



Source: Research Dive, Nov 2021

# Cloud Disaster Recovery (CDR)

## 10 Reasons why should company consider CDR?



The service does not allow downtime



Compliance and Regulations



Customers and prospects expectation



In case of human error



Fast, Secure and Reliable Recovery



Avoid Catastrophic Data Loss



Change CapEX to OpEX



IT team can focus on core operations



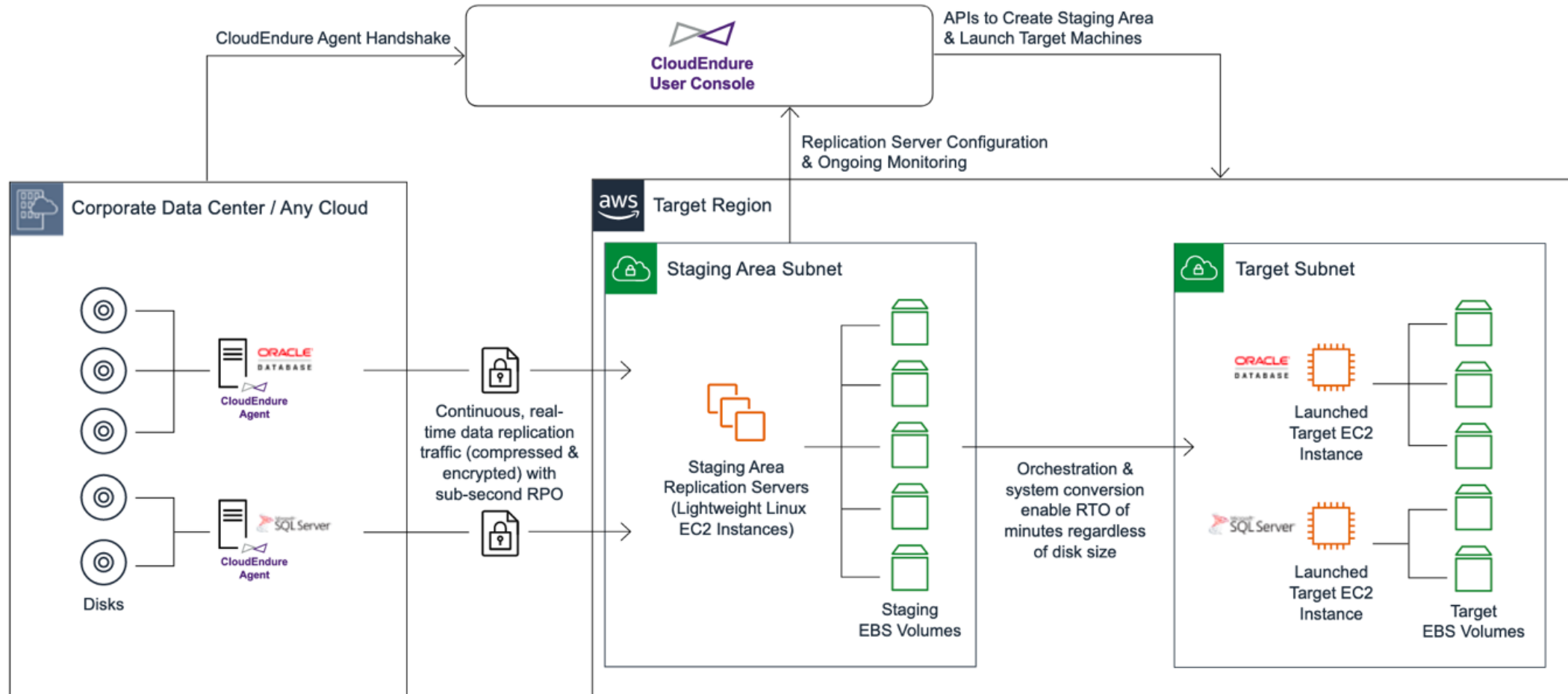
Low up-front cost



In case of natural disaster

# CDR Architecture

## AWS CloudEndure





5G + Cloud + Ecology

In the new normal, technology is the core of everything.

We are here working together with our partners to empower your business digital transformation.

Thank you!