Oracle Cloud Architecture for Data Warehousing

DIRECTV LATAM

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The ultimate entertainment experience

DIRECTV provides best-in-class **digital entertainment experience** through the acquisition, production and distribution of unique and exclusive content, excellence in the area of customer service, and the continuous deployment of the latest technologies for digital entertainment.

DIRECTV is the brand of the companies of **Vrio Corp**. (Vrio) in **9 countries**: Argentina, Barbados, Chile, Colombia, Curaçao, Ecuador, Peru, Trinidad and Tobago and Uruguay.

Vrio also operates in Brazil under the **SKY** brand. All in all, Vrio is a leading provider of digital entertainment services in South America and the Caribbean, with more than **10.5 million subscribers** and more than **9,500 employees in 10 countries** across the region.

Sports 24/7   **Enjoy DIRECTV GO**   **Premium Channels**   **Download DIRECTV App**

Journey to Oracle Cloud (J2OC)

J2OC goal is to improve infrastructure stability, bring scalability, speed up the infrastructure/platform delivery process and reduce costs

Improve 99.95% infrastructure stability and security

Improve Time to Market for Digital Transformation

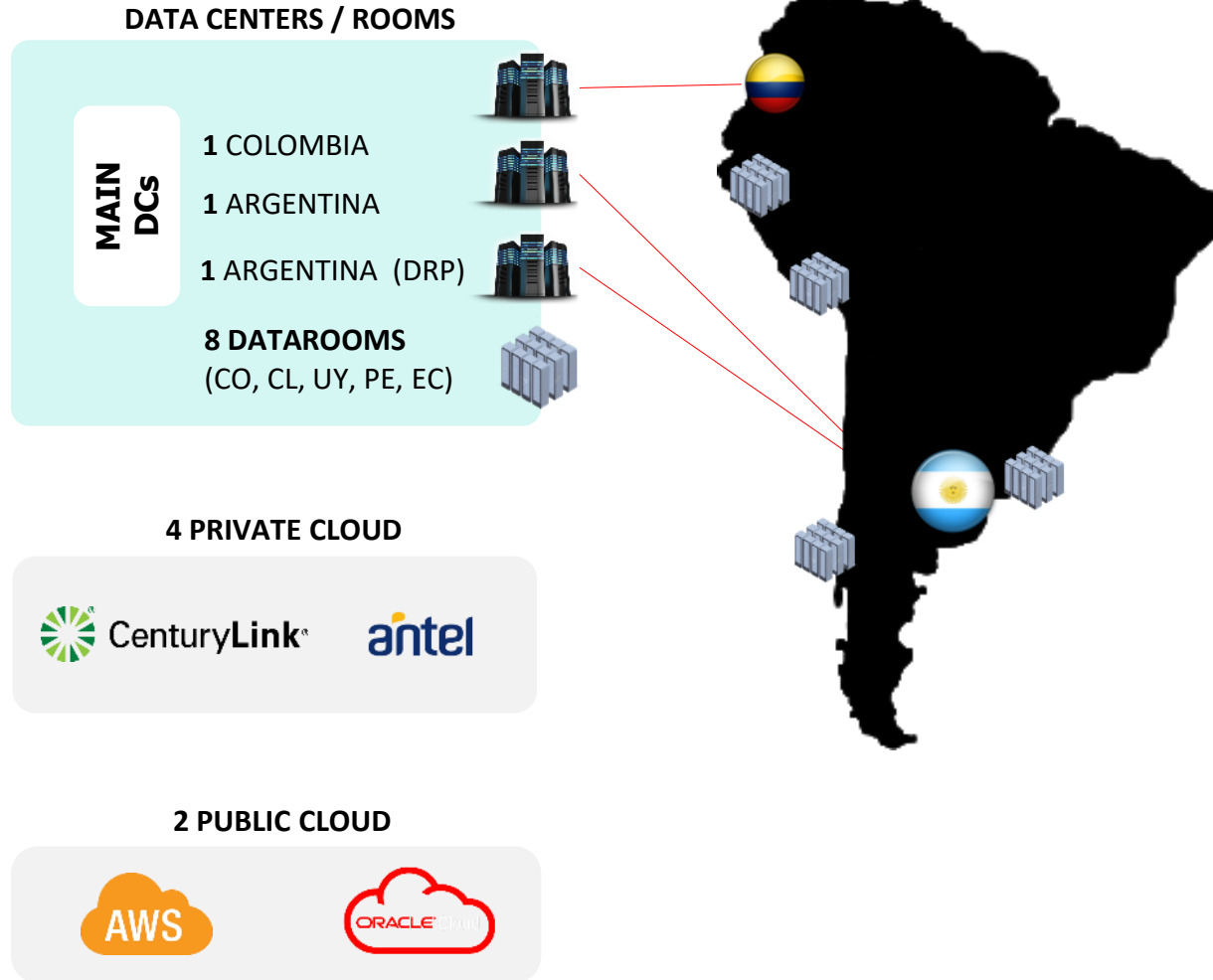Enable elastic capacity increases to support Business Events (WC, Sports Events, etc)

Enhance current DR capabilities

Sunset on premise Datacenters in 3 years (3 main DCs + 8 Datarooms)

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Initial Infrastructure situation (2018)

DATA CENTERS / ROOMS

MAIN DCs
- **1** COLOMBIA
- **1** ARGENTINA
- **1** ARGENTINA (DRP)
- **8 DATAROOMS** (CO, CL, UY, PE, EC)

4 PRIVATE CLOUD

CenturyLink   antel

2 PUBLIC CLOUD

AWS   ORACLE Cloud

SOFTWARE STACK

ON-PREM

DBS
- ORACLE — 350
- SQL — 2500

SYSTEM
- Windows — 1700
- Linux — 1300
- vmware — 2100
- middleware — 550

NETWORK LATAM

+500   +130   +250

HARDWARE

- 6 — ORACLE Exadata
- 2 — ORACLE EXALOGIC
- 3 — ORACLE DATABASE APPLIANCE
- 3 — AVAYA
- 1 — teradata.
- 3 — VBlock converged infrastructure DELL EMC
- 215 — SERVERS
- 56 — RACKS
- 19 — Storage Systems
- **3000 Tb**

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J2OC ROADMAP

2019 Mobilization

2020 Adoption

2021-2022 Transformation

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ORACLE CLOUD STARTUP

Program Governance setup

Training with Oracle University

OCI Initial design & Network connectivity

Legacy Applications migration strategy

Non-Prod environments migration

AWS to OCI migration

Business Intelligence Replatform (Teradata to Exadata Cloud Service)

Infrastructure as Code strategy DevOps

START MOVING PRODUCTIVE WORKLOADS TO OCI

Business Intelligence + SAS Analytics Platform (Go live Sept.20)

Delphix Pre Billing Processes (all countries)

Non-Productive environments migration

Colombia Datacenter applications migration to OCI

Mobile App (Self-care) Oracle Mobile Hub (OMH)

Cloud Disaster Recovery Architecture design and foundation

Big Data and Advanced Analytics Platform construction

Digital Transformation Initiatives

COMPLETE THE JOURNEY, REDUCING OPERATIONAL DATACENTER COSTS

Reduce footprint to minimum in Argentina and Colombia Datacenters

Siebel upgrade & migration to OCI

Argentina Datacenter migration to OCI (Argentina, Chile, Uruguay, etc.)
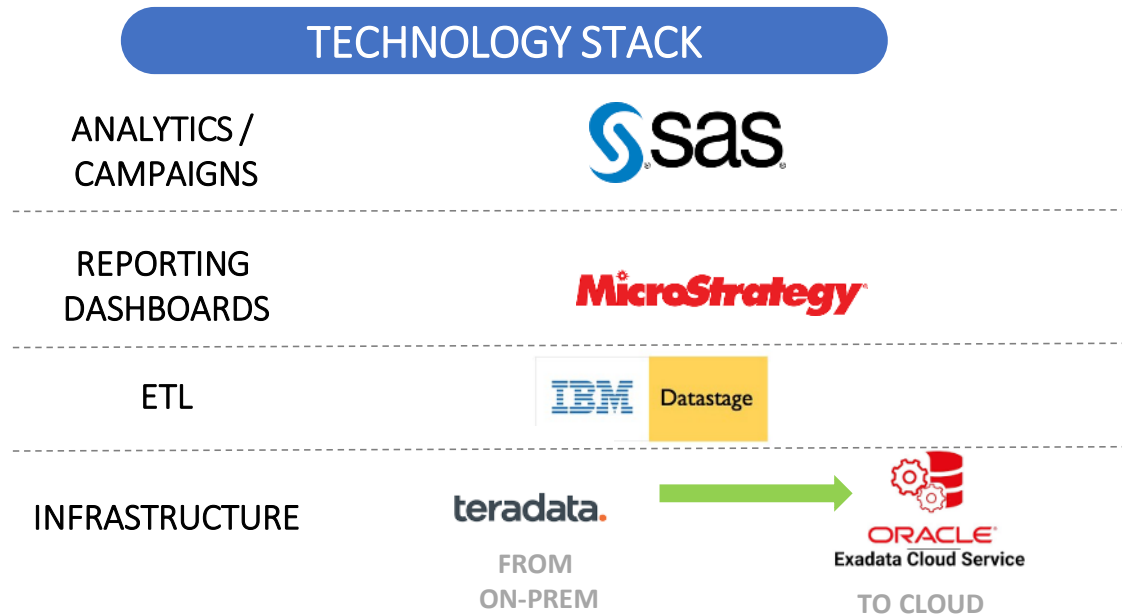
Cloud Disaster Recovery full ready

Enable infrastructure automated self-service capabilities

Cloud adoption

20% first year

60% May 2021

90% Apr 2022

BI / Information Management (IM) Cloud migration

Main Drivers

- Reduce TCO and operation costs of overall IM solution
- Improve scalability and operation with cloud computing and PaaS
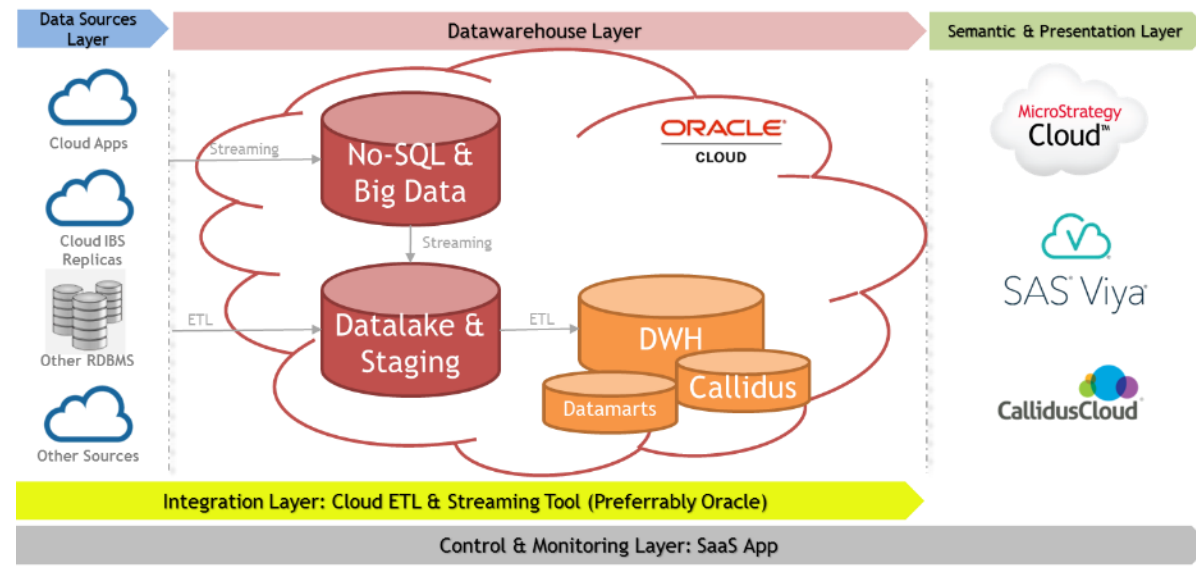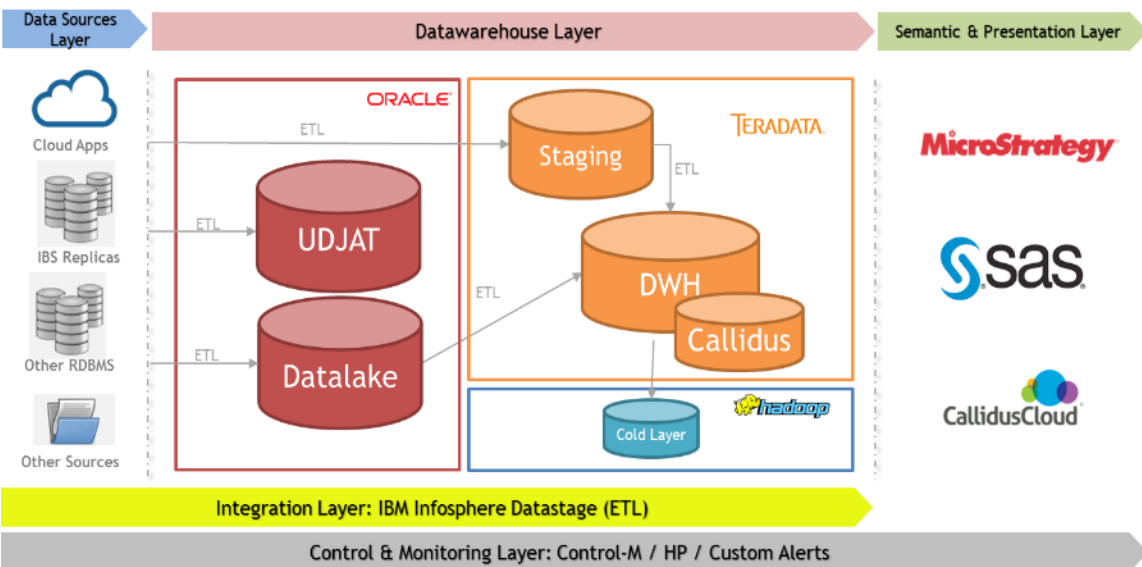- Adapt IM solution to new technologies and best practices

Current on premise based on **Teradata**, **IBM Infosphere Datastage**, and **Microstrategy / SAS**

TECHNOLOGY STACK

ANALYTICS / CAMPAIGNS	SAS
REPORTING DASHBOARDS	MicroStrategy
ETL	IBM Datastage
INFRASTRUCTURE	teradata → ORACLE Exadata Cloud Service

FROM ON-PREM → TO CLOUD

BI / Information Management (IM) Cloud migration

FROM — **TO**

Staging & DWH
- Size: 30 TB
- Growth: 1.1TB/month
- Tables: +3,400
- Views: +2,000

Datalake:
- Size: 14 TB
- Tables: 3,962
- Views: 60

ETL Jobs & Complexity
- High: 432
- Medium: 456
- Low : 842

Microstrategy / SAS
- Number of users: 1,086

- **Exadata Cloud Service**

- **OCI IaaS for ETL, Microstrategy and SAS**

- **Staging & DWH & Datalake: 80 TB size**

- **9 Billing Systems replication to OCI using Golden Gate**

BIG DATA AND ADVANCED ANALYTICS

Working in a rapid test-and-learn processes with cross-functional teams that include members of Marketing, Finance, Operations, IT and Advanced Analytics.

Advanced Analytics

- Churn Model
- Cross Sell Model
- Customer Lifetime Value
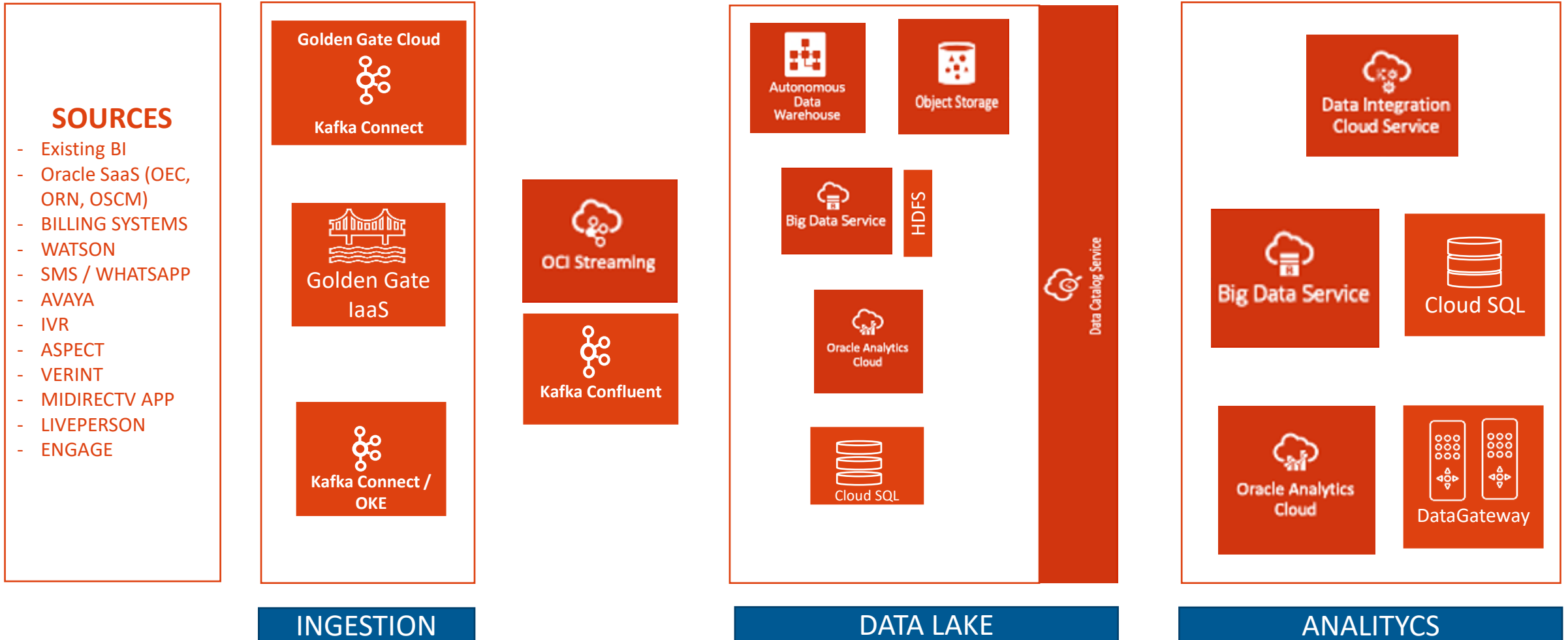
Retention Campaings

- Churn Propensity
- Churn Drivers
- Value at stake

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BIG DATA AND ADVANCED ANALYTICS (OCI architecture)

SOURCES

- Existing BI
- Oracle SaaS (OEC, ORN, OSCM)
- BILLING SYSTEMS
- WATSON
- SMS / WHATSAPP
- AVAYA
- IVR
- ASPECT
- VERINT
- MIDIRECTV APP
- LIVEPERSON
- ENGAGE

Golden Gate Cloud

Kafka Connect

Golden Gate IaaS

Kafka Connect / OKE

INGESTION

OCI Streaming

Kafka Confluent

Autonomous Data Warehouse

Object Storage

Big Data Service

HDFS

Oracle Analytics Cloud

Cloud SQL

Data Catalog Service

DATA LAKE

Data Integration Cloud Service

Big Data Service

Cloud SQL

Oracle Analytics Cloud

DataGateway

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LESSONS LEARNED

- Create strong partnership with Oracle, locally and OCI Product Management teams

- Design OCI components, network and security architecture are key since the beginning. Plan accordingly to avoid re-works

- Keep updated your team regarding new OCI releases and products roadmap

- Replication is a must for DW on Cloud (Billing systems and other key sources)

- Agile principles and MVP approach for startup ADW, Big Data, OAC and similar products. Fail fast, iterate and succeed.

- Automate everything you can. Create the Infrastructure Automation Dev team.

- Automate Testing (Comparison Reports, etc.). Key in technical migrations to accelerate delivery.

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