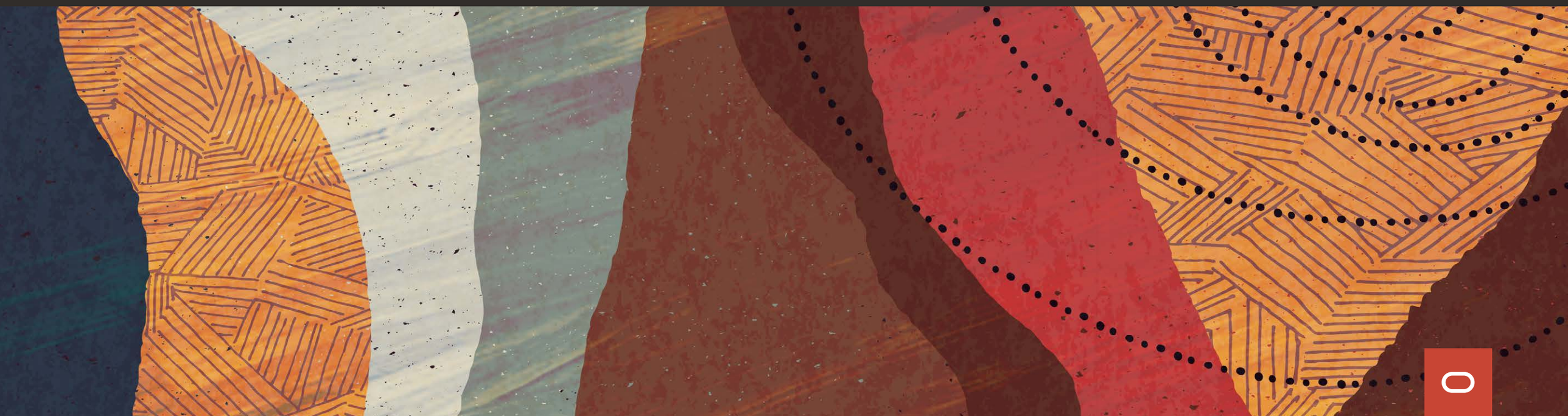
ORACLE
Communications

What Can Cloud Native Do for CSPs?



Cloud Native Can Improve....

Development

Cloud native is a way of approaching the development and deployment of applications in such a way that takes account of the characteristics and nature of the cloud—resulting in processes and workflows that fully take advantage of the platform.

Operations

Cloud native is an approach to building and running software applications that exploits the advantages of the cloud computing delivery model. Cloud-native is about how applications are created and deployed, not where.

Infrastructure

Cloud native platforms available “as a service” in the cloud can accommodate hybrid and multi-cloud environments.

What are Cloud Native Core Concepts?

DevSecOps

Not My Problem

Separate tools, varied incentives, opaque process

Shared Responsibility

Common incentives, tools, process and culture

Continuous Integration and Deployment

Release Once Every 6 Months

More bugs in production

Release Early and Often

Higher quality of code

Microservices

Tightly Coupled Components

Slow deployment cycles waiting on integrated tests teams

Loosely Coupled Components

Automated deploy without waiting on individual components

Containers

Directly Ported to a VM

Monolithic application unable to leverage modern cloud tools

Packaged for Containers

Focus on business software by leveraging the platform ecosystem

What are the Benefits of Cloud Native?

Business Optimization

Microservices architecture enables flexibility, agility, and reuse across various platforms.

CAPEX and OPEX Reduction

Service-based architecture allows integration with the public Cloud to handle overload capacity, offer new services with less development, and take advantage of other 3rd party services such as analytics, machine learning, and artificial intelligence.

Service Agility

Common services can be shared by all network functions deployed on the Cloud-Native Environment (CNE). Use of common services ensures all network functions provide telemetry in the same framework, further simplifying correlation and troubleshooting.

Accelerated Innovation

Significantly shorten the software delivery times, and enable full test automation, and operations with DevOps and Continuous Integration/ Continuous Delivery (CI/CD).

How Can CSPs Accelerate the Benefits of Cloud Native?

Beyond the cloud native technology that the communications industry is working to use for deployment models, there are crucial cloud-inspired lessons and practices Communications Service Providers (CSPs) can adopt to accelerate key benefits, such as:

Extend their network and processes to include consumption of whole services in an open and automated fashion—

This can greatly increase what they will be capable of, enabling CSPs to focus on their core strengths and value while leveraging and repackaging high-value services in ways that will delight their customers;

Consume and integrate cloud services to augment their offerings—

Doing this where it makes sense will address much of the current frustration that the CSPs are experiencing. This is a fundamentally different model, as it does not come with the operational burden and complexity of stitching together functional components that are built for different environments. That reduction in complexity results directly in cost savings, and an increase in deployment and development speed that drives innovation.

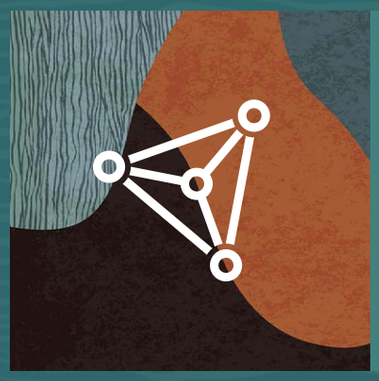
Facilitate and participate the growth of smart digital ecosystems—

CSPs can extend their network and business practices, allowing them to easily consume and integrate services, as well as provide their own services in new ways. This is critical and is the real driver for the other changes.

How to Prepare for Cloud Native?

Adopt a SaaS business and operational model to lower cost, share risks/rewards, and grow revenues.

Secure the network core, edge as well as the Cloud with real-time network visibility and behavioral monitoring for proactive response to security threats.



Evolve to a 5G cloud native network for greater automation, lower OPEX and CAPEX, and improved security to manage data and IoT growth.

Why is NOW the Time for Cloud Native?

New Competition Requires it

Disruptive Technology Enables it

5G Architecture Incorporates it

47%

Reduction in VMs, OS Licensing and Server Costs

Reduction in CAPEX

—

10x

Cost Reductions for Maintaining Existing Apps

Reduction in OPEX

—

13x

More Software Releases

Increase in developer productivity

Source: Introduction to Docker, Docker, Inc.

Why Oracle Communications for Cloud Native?

Experience in the Cloud matters! Oracle is a pioneer in developing, operating and deploying applications in the Cloud for more than a decade, which delivers:

Service Agility
Streamline business concept to service delivery and minimize service order to service delivery.

Innovation
Go beyond traditional service offerings by integrating with other cloud services.

Efficiency
Leverage the proven operational efficiencies of the Cloud.

Adaptability
Future-proof your business with deployment flexibility.

Oracle Cloud Native Environment for 3G/4G/5G Solutions

Cloud Applications
Oracle or 3rd Party

- Security
- 5G Analytics
- IoT
- Monetization

Oracle Cloud Technologies

- Big Data
- AI/Analytics
- Machine Learning
- Event Hub (Kafka)

Oracle 5G/45/3G Network Functions

5G Core NFs

- Istio
- Envoy
- 3GPP
- R16 eSBA
- Oracle 5G Aware
- Service Mesh

- 4G Policy and Signaling NFs
- 3G Signaling and Security NFs
- SBC, IMS and SD-WAN

Cloud Native Platforms
Oracle or CSPs'

Orchestration

- Kubernetes
- Helm

Runtime

- Docker
- Flannel
- Calico

Observability

- Fluentd
- Prometheus
- Grafana
- Kibana
- Elasticsearch
- Jaeger

DevOps

- Jenkins

Storage

- Gluster
- MySQL

Cloud Infrastructures
Oracle Cloud or CSPs'

- Compute
- Storage
- Database
- Security
- Integration

Oracle Communications Supports Open Source Software

The Cloud Native Computing Foundation (CNCF) serves as the basis for Oracle Communications SaaS Services and our new 5G portfolio.

SaaS-based cloud delivery requires a deep understanding of service reliability and an awareness of the operational aspects of what cloud applications will need. At Oracle we work within the CNCF to leverage what we've learned in our rich telecoms and cloud heritage, developing the best framework for the convergence of future web scale clouds.

Simultaneously, we are encouraging carriers and others involved with the Linux Foundation Network projects to integrate more with CNCF so as to create a more meaningful carrier cloud platform. Our objective is to provide choice and flexibility to CSPs and options that will enable them to leverage the benefits of the cloud to create business value for themselves as well as their customers.

Oracle Communications Cloud Native and SaaS Innovations

Provides CSPs with choice and flexibility to build their Own 5G Core and/or Consume 5G SaaS

Oracle provides CSPs with end-to-end security and visibility from the core to edge to cloud:

- 3G/4G/5G core network security and monitoring
- Intelligent edge security
- Industry's most secure Cloud infrastructure

SaaS business and operational models enable our customers to lower cost structure, share risks and rewards, and grow their revenues. Oracle also provides cloud-based networks-as-a-service to more easily and cost effectively scale network slices.

Oracle provides CSPs with an evolution path from 4G to 5G, supporting NSA and SA options, Non-Standalone (NSA) and Standalone (SA) 5G deployment options with choice and flexibility for public and private cloud.

Learn More

oracle.com/5G

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