

ORACLE



CLOUD NATIVE
COMPUTING FOUNDATION

Oracle and CNCF

Open source projects and the Cloud

Eli Schilling

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(DevRel), Oracle



Safe harbor statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.



About Me

Based in Seattle, Washington

Past 10 years working at Oracle / AWS

Process and Automation geek

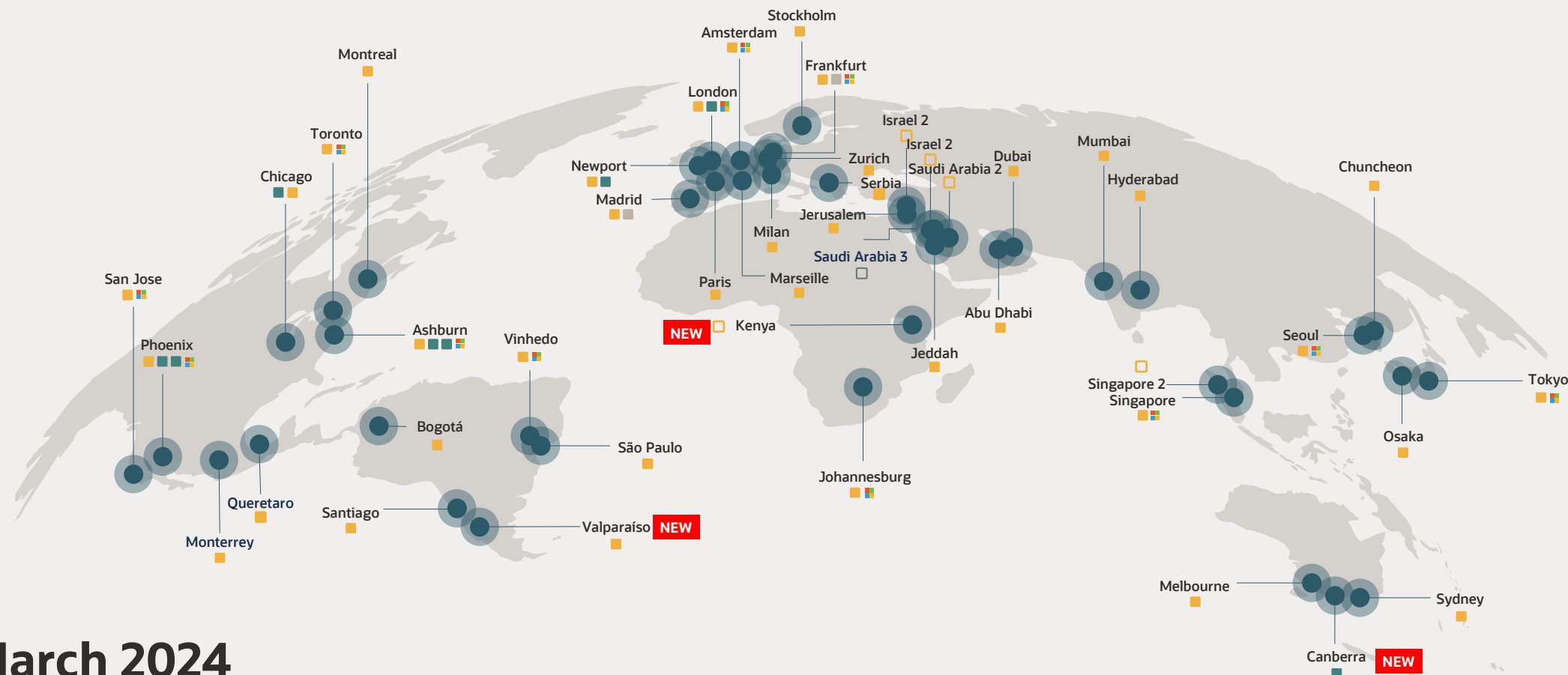
DevOps / Infrastructure as Code

Hobbies: hiking, mountain biking,
traveling, surfing, snowboarding,
cooking



Eli Schilling

Oracle Cloud Infrastructure Global Footprint



March 2024

48 regions; 5 more planned

12 Azure Interconnect Regions

- Commercial
- Commercial Planned
- Sovereign
- Government
- Microsoft Interconnect Azure



Oracle open source



500+ projects

#1 contributor to Linux Kernel
with 91K+ lines of code

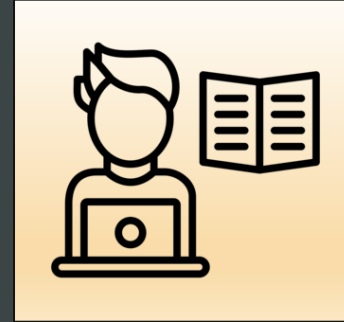
But why is **open source** important?



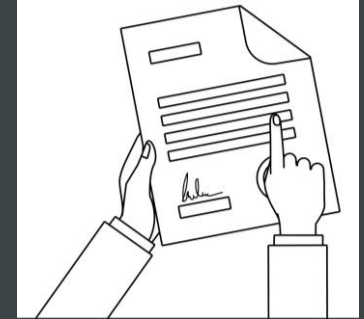
Avoid lock-in



Often more secure



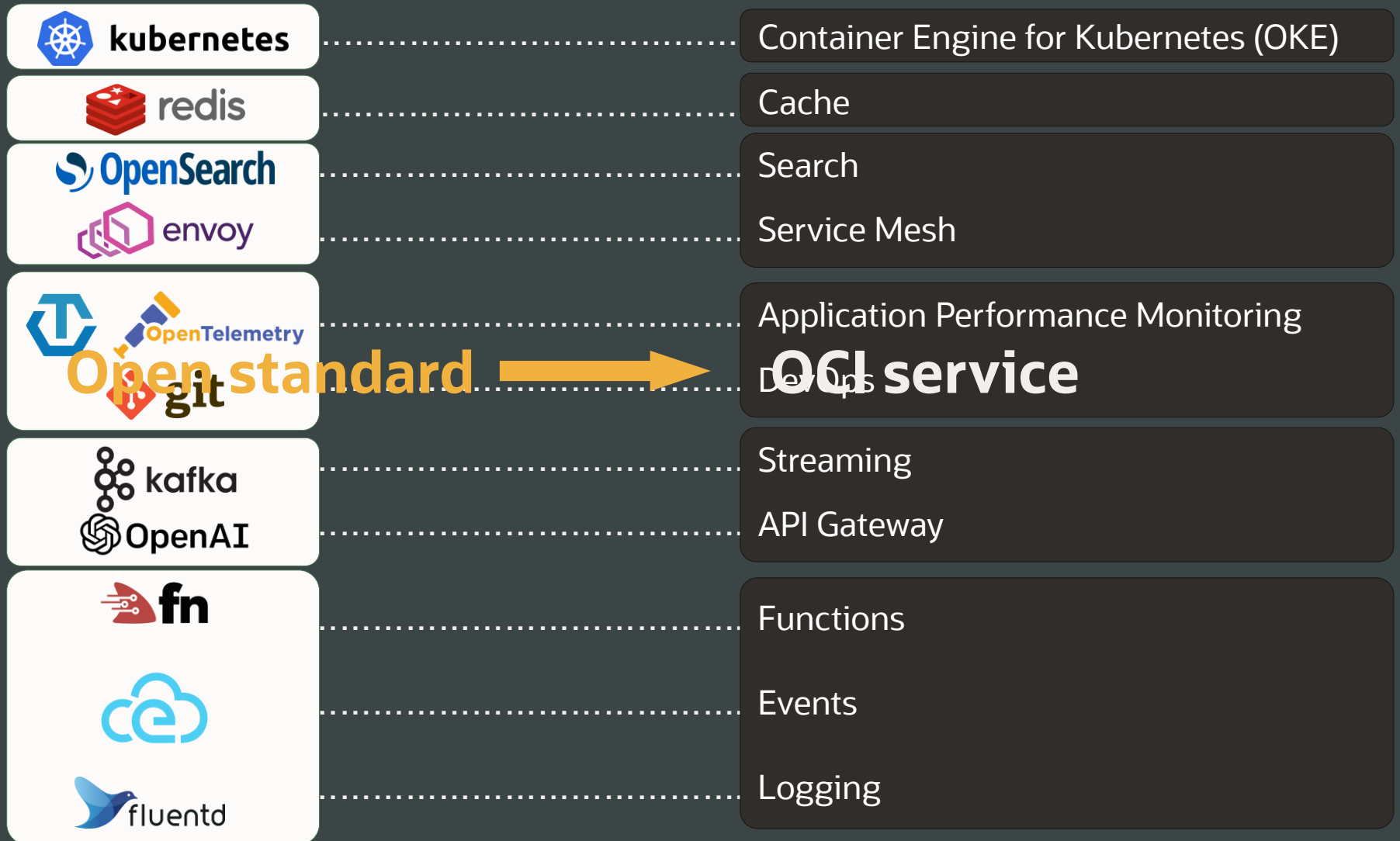
No vendor dependency



Simplified licensing

And...

We
built
our
cloud
on
**open
source**



Use **any** technology, tool, or open-source

Work in familiar environments

Retain your investment in skills and technologies

Integrate into your environments

Learn fast, reduce risk

Save time and effort



 PyTorch



HashiCorp
Terraform



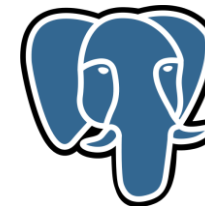
LangChain



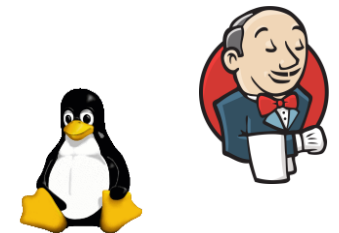
kubernetes



GitHub



GitLab





Java is the **#1 language**
for today's technology trends

63B

active JVMs

41B

cloud-based JVMs

70B

cloud-based JVMs
by 2027



We're evolving Java to
meet your **future app
development** needs

Oracle contributes **70%+**
to **OpenJDK.org**

Data-centric World

Amber

Continuously **improve
developer productivity**
through evolution of the
Java language.

ZGC

Create a **scalable low-
latency** garbage collector
capable of handling
terabyte heaps.

Cloud-powered World

Loom

Massively scale lightweight
threads, **making
concurrency simple again.**

Leyden

Improve the start-up time
and time to peak
performance of cloud
applications.

AI-driven World

Panama

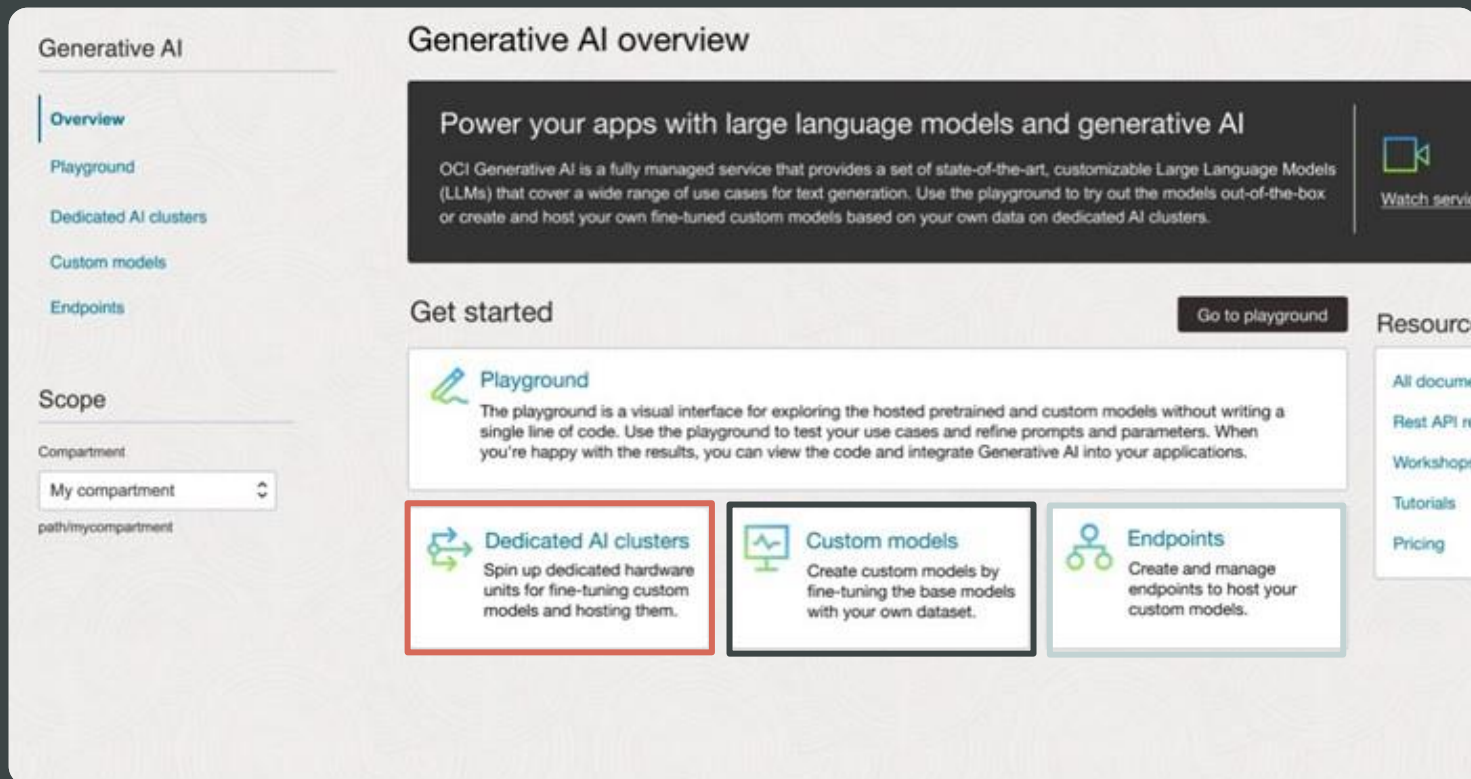
**Safe and efficient
interoperation** with native
libraries and native Java.

Valhalla

Unify primitives and classes
to **improve productivity and
performance.**



We've made Generative AI ready for developers



Dev-ready AI Infrastructure

Dedicated AI clusters to host and tune models

Models for Devs

Out of the Box
Custom Models

Endpoints

Create and manage endpoints to host your models

Choice of LLMs from Meta, Cohere, more



Llama-2 (70B)

70B parameter text generation model developed by Meta, free for research and commercial use.



Command

Highly performant generation model in two sizes: 52B (XL) for best accuracy, 6B (Medium) for lowest latency and cost.



Summarize

Provides high quality summaries that accurately capture the most important information from your documents.



Embed

English and multilingual model (V3) converts text to vector embeddings.

Intelligence for
your enterprise

OCI Generative AI Agents

In beta now

Orchestrate information retrieval,
action, reasoning, and more

Connected to your enterprise
knowledge

First release: Retrieval Augmented
Generation (RAG)

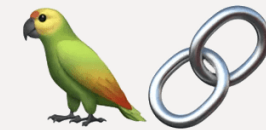
LangChain applications on OCI

Build, observe, and deploy LLM-powered apps easily

```
import os
from langchain.llms import Cohere
from langchain.chains import LLMChain
from langchain.prompts import PromptTemplate

os.environ["COHERE_API_KEY"] = "COHERE_API_KEY"

llm = Cohere()
prompt = PromptTemplate.from_template("Tell me a joke about {subject}")
llm_chain = LLMChain(prompt=prompt, llm=llm, verbose=True)
```



LangChain

Oracle Kubernetes



OCI Container Engine for Kubernetes (OKE)

- A managed Kubernetes service by OCI, that simplifies the deployment, management and scaling of containerized applications

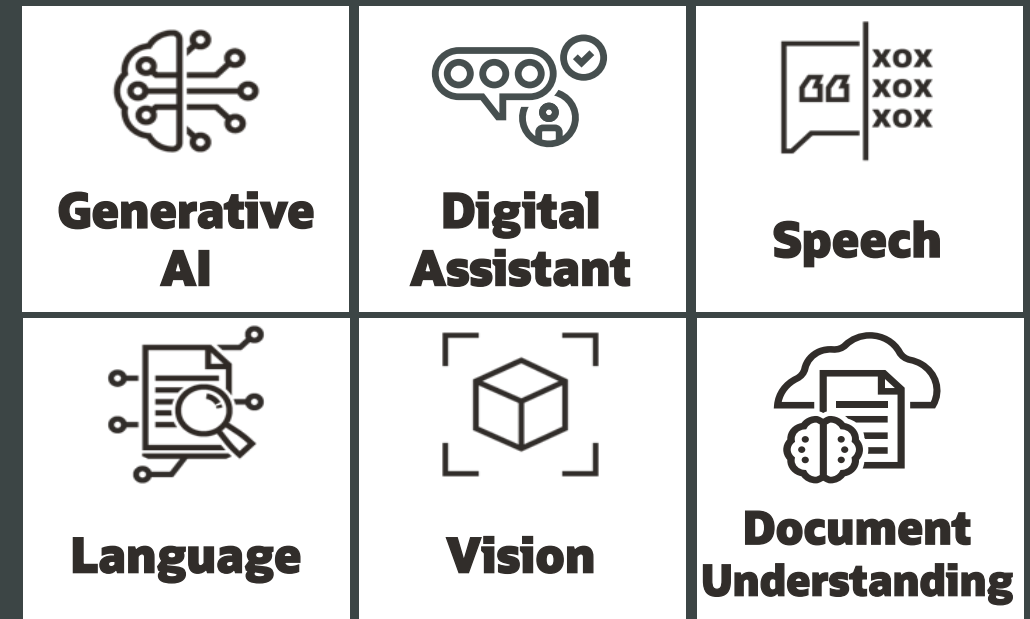
Oracle ❤️ Kubernetes



- **100+** Oracle Cloud Services run on OKE
- **100%** of Oracle AI Services run on OKE
- **1000s** of our customers use **millions** of CPU and GPU cores on OKE

Every Oracle AI service runs on OKE

CNCF Project → **Oracle AI services**



At KubeCon Chicago, Oracle donated **\$3 Million**
per year for 3 years to CNCF

We're excited to see the cloud

- Kubernetes project
- GitHub Actions
- Various other projects such as apisnoop.io, clomonitor.io, artifacthub.io,
sandbox project

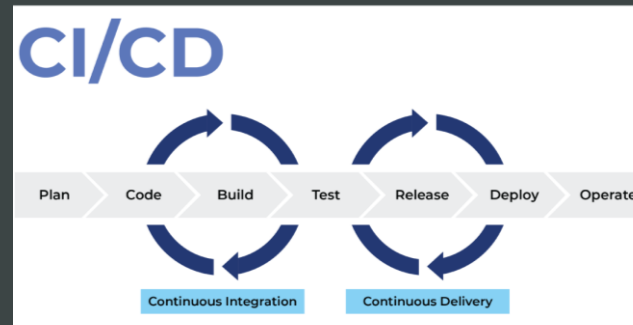


Common use cases



Managed K8s

Deploy and test on OKE



CI / CD

CI/CD build runners (GitHub actions, GitLab...or even OCI Devops)

[GitHub Actions Doc Link](#)

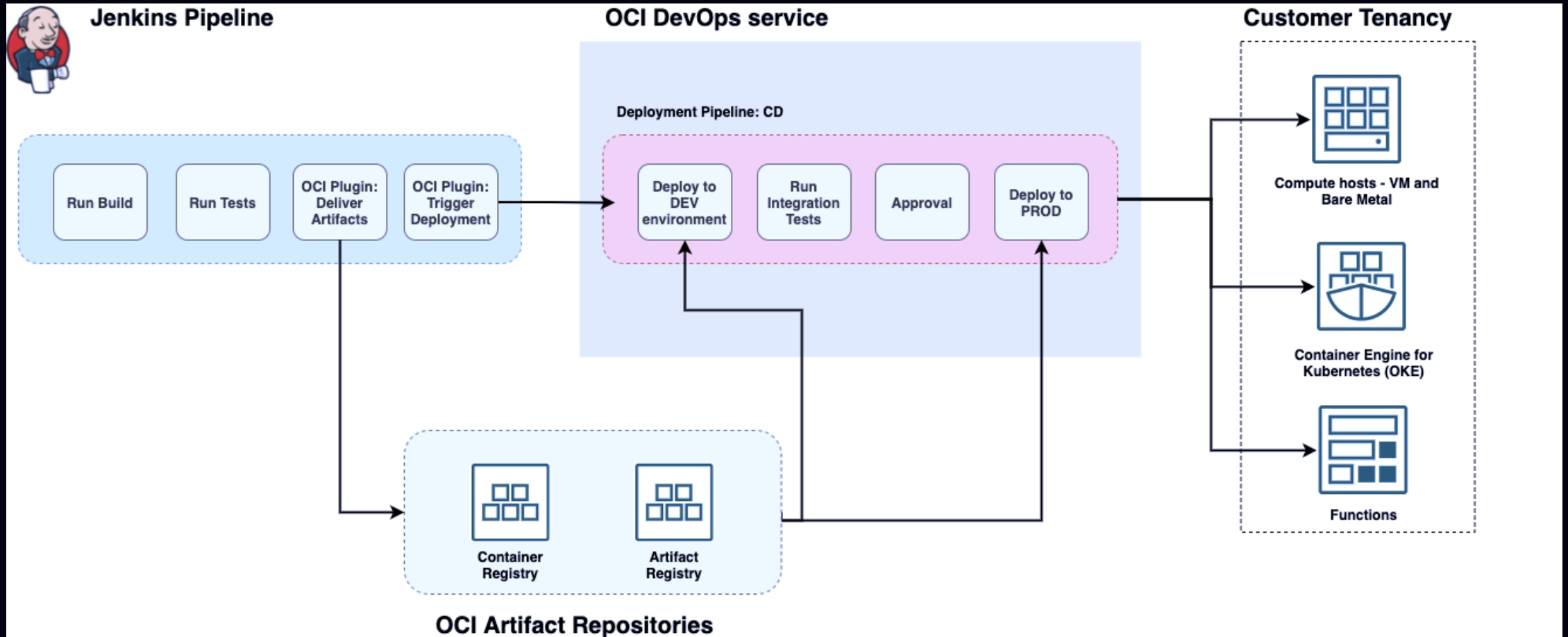


Gen AI

Utilize ARM-based compute for GenAI Inference

Bring your own CI: Jenkins Plugin

Modular design



Integrations: Jenkins, GitHub, GitLab, Spinnaker

Connect CI with OCI CD

- From existing pipelines:
- Easier to migrate existing pipelines – keep your current Jenkins file, GitHub Actions
 - Deliver Artifacts to OCI Artifact Registry
 - Trigger a Deployment Pipeline



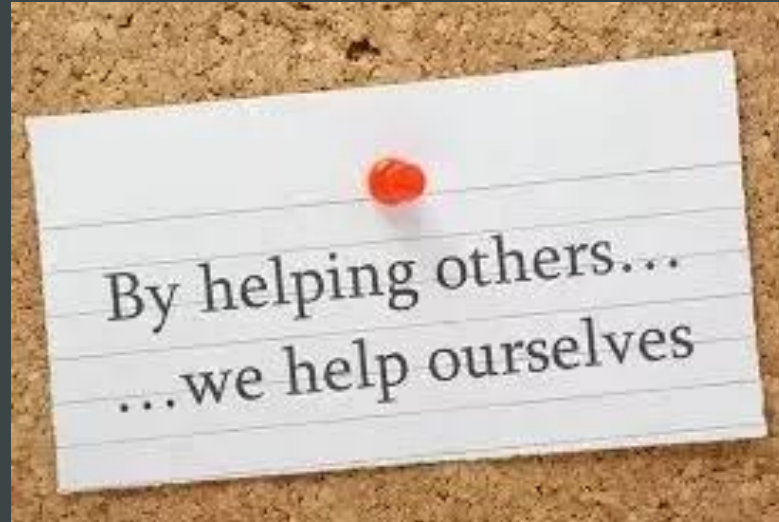
Mirror a GitHub or GitLab repo to your OCI Code Repository to speed up builds

Spinnaker: open source multi-cloud orchestration for K8S

- Deploy to OCI platforms



ORACLE



What else??

We'd love to hear from you...how can we help?

Get started with Oracle AI

➤ Discover

- Oracle AI – www.oracle.com/ai
- OCI Generative AI Service – www.oracle.com/genai
- Strategy Update from Greg Pavlik on LinkedIn

➤ Learn

- Certification – Become an OCI AI Foundations Associate at <http://mylearn.oracle.com>
- Training

➤ Build

- AI Solutions Hub - Real world usecases with demos and sample code – www.oracle.com/AISolutions



Developer Resources

- **Get started with cloud credits and always free services**
<https://www.oracle.com/cloud/free/>
- **Learn, engage, and build with Oracle technologies**
<https://developer.oracle.com>
- **Certifications**
<https://developer.oracle.com/certifications.html>





Join us on Slack!

**Follow along for troubleshooting,
community, and pictures of pets**



Thank you

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