KubeCon | **CloudNativeCon**

Europe 2022

WELCOME TO VALENCIA

Intro to the Cloud Native Maturity Model

Cartografos Working Group

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About the Cartografos Working Group

PURPOSE

Provide tools to help adopters and end-users navigate the CNCF landscape and the wider cloud native ecosystem

OUTPUT

- Cloud Native Maturity Model
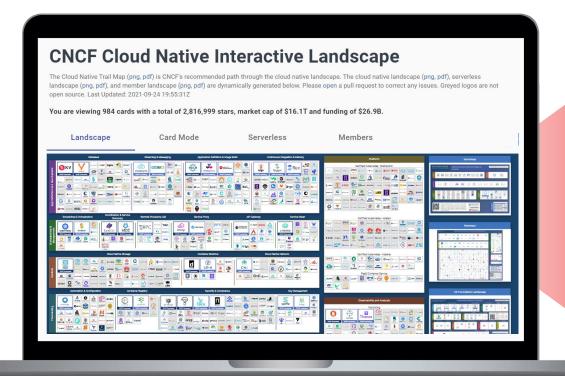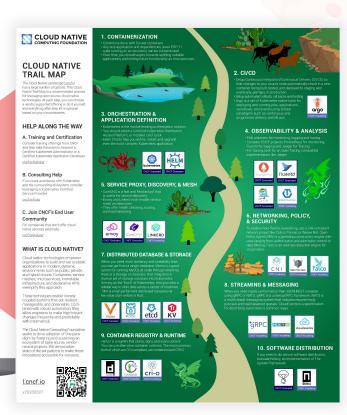- Artifacts related to Cloud Native Landscape

CARTOGRAFOS GROUP

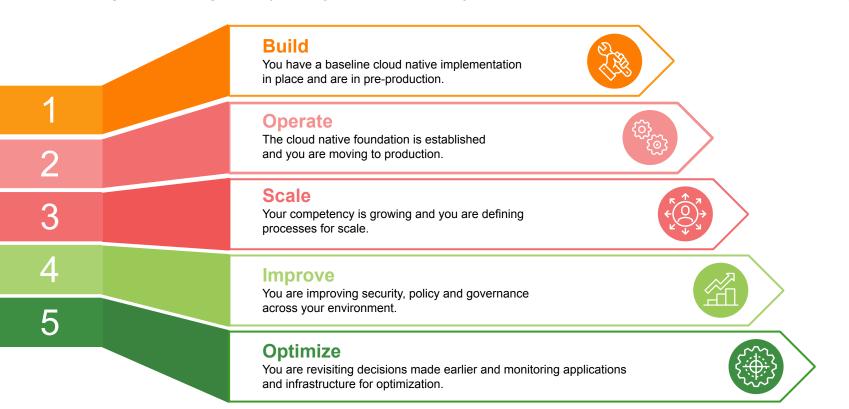Launched in 2021

First Project: Why a Maturity Model?

The Cartografos Working Group | https://github.com/cncf/cartografos

5 Stages of Maturity

The Cartografos Working Group | https://github.com/cncf/cartografos

1

Build
You have a baseline cloud native implementation in place and are in pre-production.

2

Operate
The cloud native foundation is established and you are moving to production.

3

Scale
Your competency is growing and you are defining processes for scale.

4

Improve
You are improving security, policy and governance across your environment.

5

Optimize
You are revisiting decisions made earlier and monitoring applications and infrastructure for optimization.

How the Model is Divided

People

How do we work? What skills do we require?

What does our organization look like as we move through this process?

How do we weave security into how people work?

Process

What processes do we need, and how do we map workflows and CI/CD using infrastructure as code?

How do we shift security as "far left" as possible?

Policy

What internal and external policies are we required to achieve security and compliance mandates?

Do these policies reflect your business's operating environment?

Technology

What technology is require for you to deliver on the benefits of cloud native and support people, processes and policy as well as the technology for CI/CD, adoption of GitOps, observability, security, storage, networking, etc.

Business

What can your business leaders, CXO, etc expect from cloud native?

The Cartografos Working Group https://github.com/cncf/cartografos

Level 1

Build | You have a basic cloud native implementation in **pre-production**

New to technology

Basic understanding and some pre-existing qualifications

Establishing application and lifecycle requirement, implementing repeatability

Limited set of documented policies

Relatively basic tools and technology

Requirement to assess existing toolset to see how they fit within the new landscape

Limited automation

Initial understanding from business as to why cloud native

Level 2

Operate | The cloud native foundation is established and you're **moving to production**

The organization has committed to decentralization	Adoption of git and CI/D	Experimenting with tooling to help with policy management	Base policies agreed and most documented
The wider development team can operate core technologies with small pockets of expertise emerging	Encryption, authorization, authentication topics addressed	Initial metrics and audit requirements defined and produce	Business able to evaluate the benefits of application migration using KPIs established in level 1

Level 3

Scale

Your competency is growing and you're **aiming for scale**!

Team competency is growing	Standardization, repeatability, automation and infrastructure-as-code	Automated policy-as-code	Solutions spread across teams	Focus on release, secret and policy management	Business will see benefits of flexibility and scalability
Cloud native commitment from leadership			Largest tooling footprint across organization		**IAC** faster time to market **Security monitoring** less risk **Observability** quicker responsiveness, better customer experience

Level 4

Improve | This is when you have the maturity level to **truly scale security, policy & governance across the environment**

This is the target state for most of enterprises as this model gets adapted

Mature capability in place to support a robust DevSecOps pipeline

Quality Engineering (QE) capability

We graduate to skilled subject matter experts (SMEs)

You will be measuring yourself against KPIs and the business will have more reporting

The team will spend more time on the business instead of maintaining K8s

Mature Container Platform using AI, RPA and advanced tools

ITSM integrated into DevSecOps

Runtime scanning enabled at scale

Level 5

Optimize

Achieved maturity; revisiting decisions made earlier; monitoring applications & infrastructure for optimization

The organization is skilled and you have DevSecOps working

Building design capabilities for cloud native

Resource usage data helps optimize spend and your process will include providing the business cost analysis

You are refining policies as the organization achieves maturity

You'll ensure technology, process and, most importantly, people contribute to policy

Your tech investment is laser focused on automation in both functional and non-functional areas such as scanning, policy, security & testing.

Automation allows the team to **focus on innovation!**

The business will have achieved its goals with cloud native and results will be demonstrable to leadership

Working Group Challenges

Picking
champions

Naming specific projects means we might be expressing an opinion

⚠

We need to avoid this

Ensuring the model is relevant to a wide range of organizations

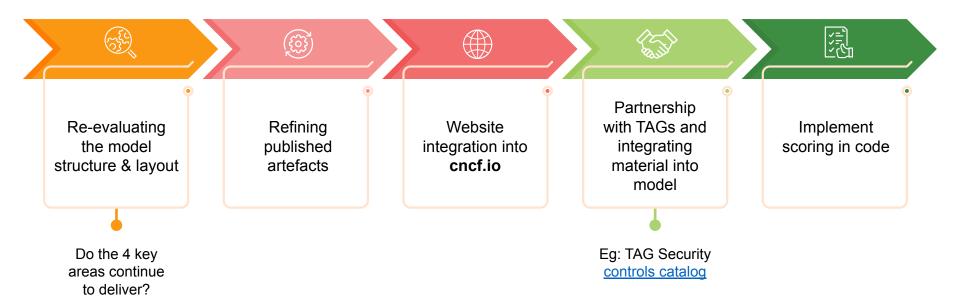|		
It probably fits the Fortune 100…	But how can we make it more useful for startups and mid-size orgs?	Or even the individual, inside or out of the community wrapping their head around cloud native?

Publishing leading edge thought on cloud native computing and keeping the wider model fresh

? **Can you help us with this?**

Next Steps

Re-evaluating the model structure & layout

Refining published artefacts

Website integration into **cncf.io**

Partnership with TAGs and integrating material into model

Implement scoring in code

Do the 4 key areas continue to deliver?

Eg: TAG Security controls catalog

Welcome New Members

The model need input from a diverse range of experience. **We welcome contributions from both technical and non-technical members of the cloud native community.**

Your experience with **people, process** and **policy** is **just as important as your technical skills**.

If you are a **member of another CNCF TAG or Project**, we'd value your input to get your perspective!

Get Involved

Join the Cartografos Working Group!

› https://github.com/cncf/cartografos

Resources

Cloud Native Maturity Model

https://github.com/cncf/cartografos

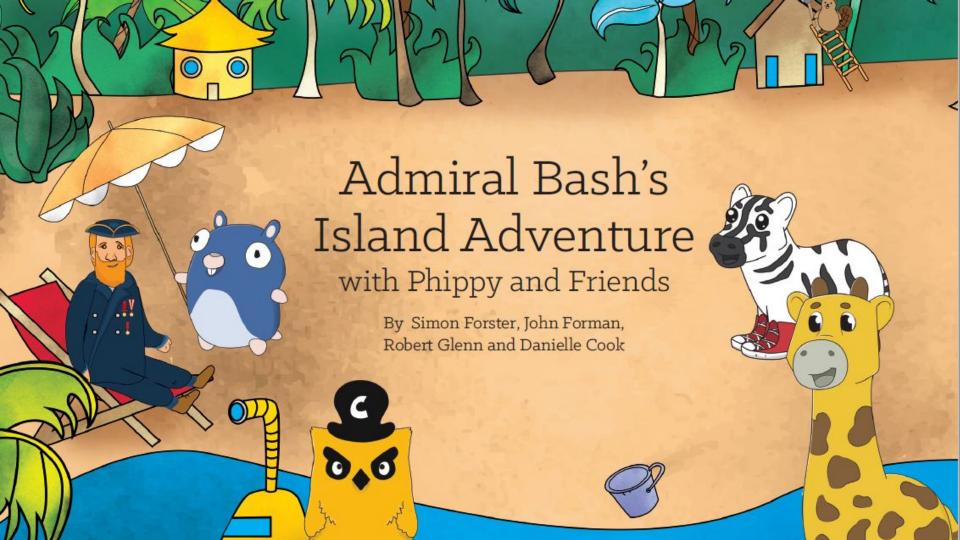|	
> Prologue	> Policy
> People	> Technology
> Process	> Business outcomes

Cloud Native Maturity Model Spreadsheet

https://community.cncf.io/cncf-cartografos-working-group/

CNCF Slack: #cartografos-wg

Admiral Bash's Island Adventure

with Phippy and Friends

By Simon Forster, John Forman,
Robert Glenn and Danielle Cook

Q & A