

Cloud-native Architecture: The Big Picture

THE PRINCIPLES OF CLOUD-NATIVE ARCHITECTURE



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Overview



What Do Leading Companies Care About?

What's Expected of Our Software Today?

Defining Cloud-native

Traits of Cloud Natives

What Does Positive Progress Look Like?

“Cloud-native” Applies to More Than Apps

Summary



What Do Leading Companies Care About?



“We may not timely identify or effectively **respond to consumer trends** or preferences, which could negatively affect our relationship with our customers, demand for the products and services we sell, our market share and the growth of our business.”



“We rely extensively on information systems to process transactions, summarize results and manage our business. **Disruptions in our systems** could harm our ability to conduct our operations”



“If we fail to **develop and maintain satisfactory relationships** with physicians, hospitals and other service providers, our business could be materially and adversely affected.”



“Our future competitiveness and ability to achieve long-term profitability depends on our ability to **control our costs.**”



What's Expected of Our Software Today?

**Valued by
customers**

**Constantly and
easily changed**

**Available at all
times**

**Scalable to meet
demand**

**Secure in all
respects**

**Maintainable at
scale**



“Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds.”

CNCF Cloud Native Definition v1.0



“Cloud Native is structuring teams, culture and technology to utilize automation and architectures to manage complexity and unlock velocity.”

Joe Beda, Heptio



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

pivotal.io/cloud-native



“Cloud-native software is built for scale, built for continuous change, built to tolerate failure, built for manageability.”

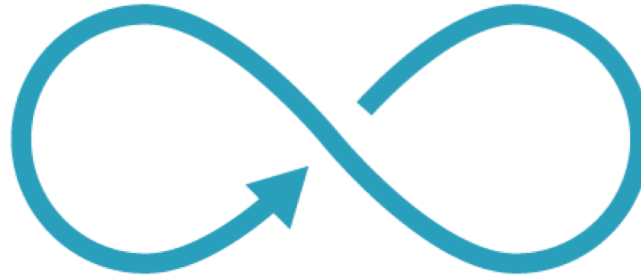
Richard Seroter



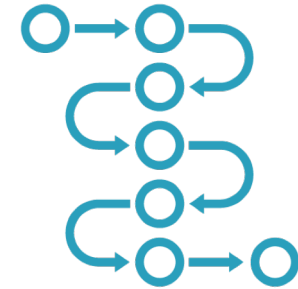
Traits of the Cloud Natives



Customer-centric



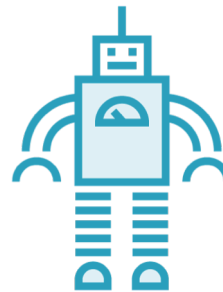
Learning culture



Agile development



Focus on products,
not projects



Automation of entire
delivery process



Heavy use of open-
source software

What Does Positive Progress Look Like?



More speed. Faster lead time, regular deployments.

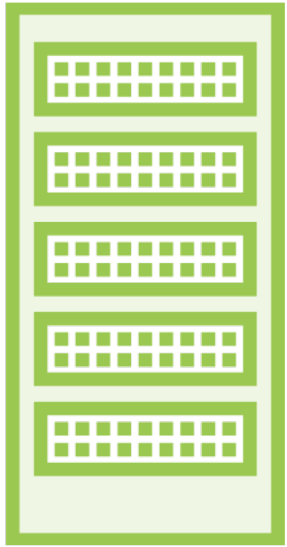
More scale. Low API response time, easily scale in and out, linear dev productivity.

More stability. Drop in impact minutes, fast MTTR, low change failure rate.

More secure. Fully patched software, regularly changed credentials, small amounts of unplanned work.



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**Cloud-native
infrastructure**



**Cloud-native
data**



**Cloud-native
security**



**Cloud-native
integration**

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