Bringing serverless to containers with Google Cloud Run

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Lily started the first Pet Theory clinic 12 years ago.

Lily, veterinarian, Founder of Pet Theory
IT growing pains...

Michael, client
Why can’t I change my appointment online?

Deirdre, veterinarian
I have to call insurance companies all the time.

Lisa, receptionist
I wasn’t able to send any invoices yesterday. The phone just kept ringing.

Patrick, IT support
The appointment system is down...
Solid IT is a requirement for my business.

As a pilot project, let’s fix the invoice problem first.
There are two paths to modern cloud systems.
Containers: Docker, Kubernetes

- Fine-grained control.
- Use any language, binary or library.
- Run your code in many places.

- Setup and maintenance work.
- Provision resources ahead of time.
- Pay for idle resources.

Serverless: FaaS, PaaS

- No infrastructure management.
- Fully managed security.
- Pay only for usage.

- App is not portable.
- Can’t use any language.
- Can’t use any binary or library.
What if we choose the wrong path?

Patrick, IT support

I have read about a new trend in cloud computing...

Ruby, Consultant
Containers:
Docker, Kubernetes

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Knative serverless platform

Kubernetes container manager

Linux operating system

Run it hosted on Google Cloud Platform

Cloud Run

Kubernetes Engine

Compute Engine

Useful for

Events/web + containers

Containerized applications

Existing, stateful applications

The big picture
Solid IT is a requirement for my business.

As a pilot project, let's fix the invoice problem first.

Lily, veterinarian, Founder of Pet Theory

Ruby, Consultant
Good work! Let's review the script.

Our on-prem system generates invoices as DOCX files. Lisa used to manually convert them to PDFs, but I found a Python script that does it.
Wait a minute - the Python script is using LibreOffice to create PDFs?

You got a problem with that?
Let’s package it up in a container.
Demo

pdfgen-cqwnsh3hvq-uc.a.run.app
Excellent! My staff are asking if cloud computing is sustainable.

Let me do some research...
Power Usage Efficiency (PUE)

Sources
Last bar: Google website, google.com/about/datacenters/efficiency/internal
Looks like cloud computing fits with Pet Theory’s values.

I am happy that you are happy.

Lily, veterinarian, Founder of Pet Theory

Ruby, Consultant