What does it take to scale DevOps automation to 10,000 instances?

RackN founders’ 12 year journey scaling Digital Rebar to enterprise scale

Rob Hirschfeld
RackN CEO & Co-founder

@robhirschfeld
@zehicle
“what I need is for Ops to be more like Dev!”
NOTHING WORKS TOGETHER!

We have great tools

But we can’t use them consistently

We have great people

But can’t control our processes

We have great vendors

But we can’t manage the complexity
And that Kubernetes team uses this to ...
This does not scale!
Goal is the SAME at:
- Every operator
- On-prem, edge and cloud
- Day 0, Day 1 and Day N

Need “code-like” Modularity & Reuse aka “Infrastructure as Code”
4th Gen Digital Rebar Platform
Customer-Managed Autonomous Control Plane

Digital Rebar Platform (DRP)

- API / CLI / UX
- IaC Workflow Engine
- Containerized Agents
- DHCP
- PXE
- DNS
- Layered
- IaC
- Database
- Terraform
- Ansible
- Cloud API

Multi-Vendor Physical & Edge
Multi-Cloud & Virtual
Enterprise Security
Integrated Multi-Site & Distributed Edge

- Single Sign On
- Highly Available
- External Secrets

Customer-Managed Autonomous Control Plane
Greg rides the racks

Pre-wired OpenStack but different every single time.
SUSE trying to scale Crowbar

Architectural limits are SPEED OF LIGHT limits
Multi-Cloud Kubernetes!

Directed Graph complexity is not a feature
Technicolor Bake Off

Digital Rebar v2 doing TOO MUCH
Digital Rebar v3 simplicity was critical
Huh? Our CLI is an Agent?

Adding Workflows and moving parallel operations outside of the server
Bank 10+ integrations

Conference room archaeology of ops integrations
Goodbye open core

When locking and threading gets serious
Hello 10k Machines

We build A LOT of the some object types - challenge is denormalizing
Scaling DevOps Lessons Learned

Scaling
● Operations is still at human scale
● Design to decentralize & distribute work
● Protect your API

Visibility
● Operate transparently
● Fail fast
● Avoid graphs! Most operations are linear

As Code
● Embrace Heterogeneous Systems
● Incremental discovery
● Immutability is a superpower
We want to collaborate around scaling Infrastructure as Code!

Try it yourself!
rackn.com/trial

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