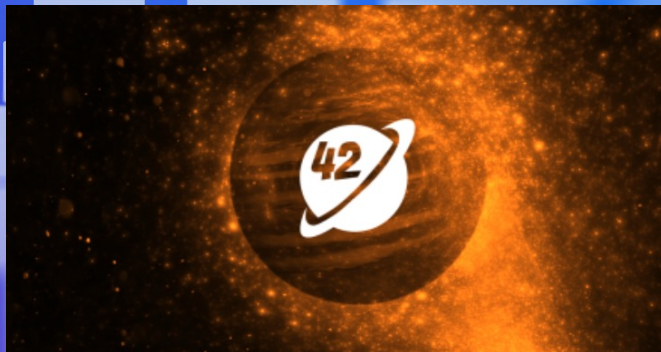


# SRE Enablement through Chaos Engineering

Chandra Dixit (SRE Architect,  
Cloud Native Labs, HCLTech)



Site Reliability Engineering 2023

Build solid systems to defend against intergalactic invaders!

# HCL Cloud Native Labs

## Accelerate the journey and enable change

### Cloud Native Strategy

- Roadmap and journey
- Validation of vision
- Business case
- Vendor selection
- Technology strategy

### Cloud Native state of mind

- Platform as a Product
- Cloud Native Operations
- Cloud Native Architecture
- Cloud Native Software engineering
- DevOps / SRE culture

### Workforce Modernization

- Developer / Engineer reskilling
- SRE / PRE
- Ways of working
- Hands-on & pairing
- Coaching
- Certifications

Hybrid & multi-cloud

### Vertical Industry Extensions

- Telco/5G NEW!
- Life Sciences & Healthcare
- Financial Services

### Industry showcase

- Demonstrations
- Complete hybrid, multi-cloud environments
- E2E scenarios
- DevOps& SRE journey
- Kubernetes showcase
- Production-grade configurations

### Rapid Enablement

- Kick-starter projects
- Proof-of-Concept
- Technology prototyping
- Development environments

### Innovation

- MVP Development
- Rapid prototyping
- AI / ML-infused apps
- 5G / Edge

### Application Engineering

- Replatform / Refactor / Rewrite
- 12 Factor development
- Portfolio assessment
- Modernization strategy
- Containerization journey
- Kubernetes / CNCF
- API Management
- Serverless
- Service Mesh

Production showcase

Cloud Native engineering

Strategy & direction

Art of the Possible

CN Labs

Cultural Transformation

Adoption & Enablement

XP / Lean / Agile

Frisco, London, Noida



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HCLTech

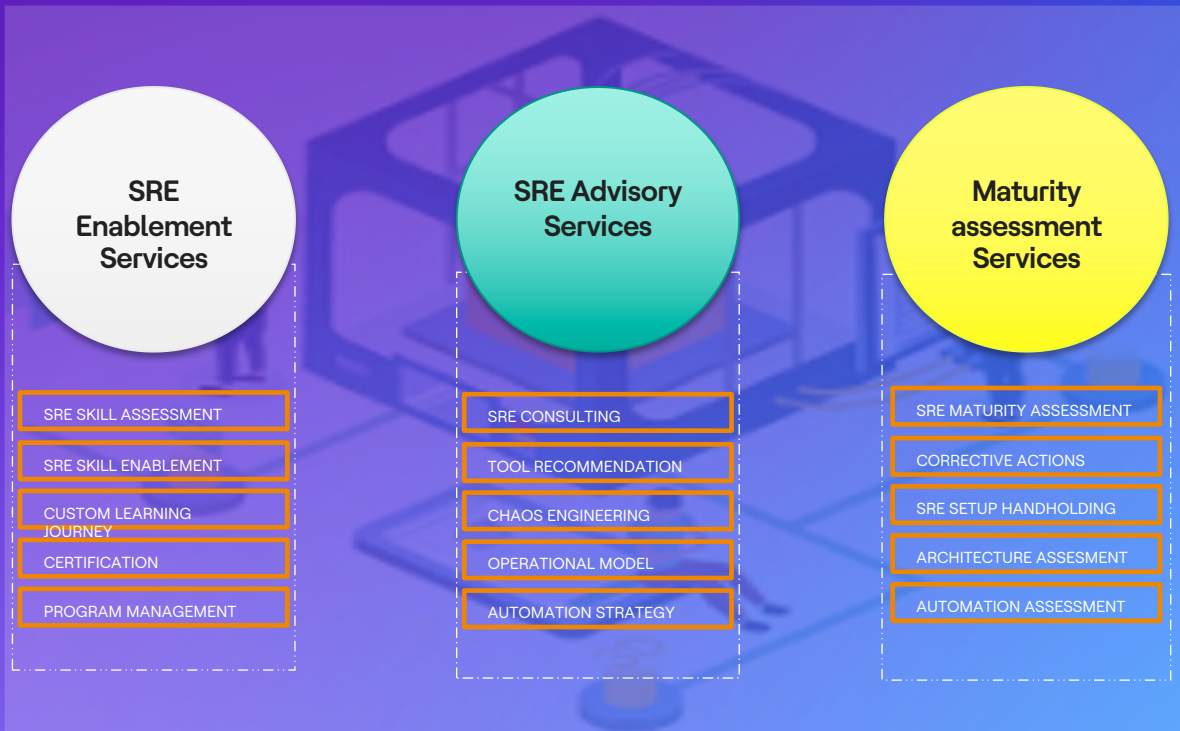
# SRE Services from Cloud Native Labs



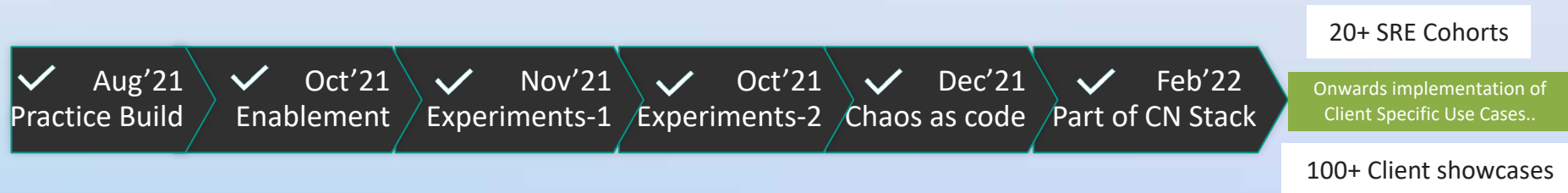
100+  
Customers



1000+  
SRE enabled

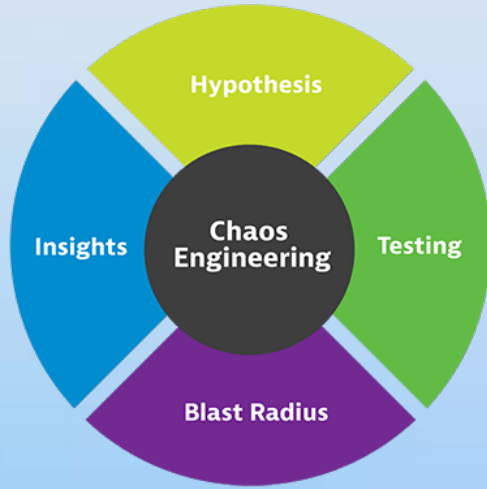


# CNL Journey with Chaos Engineering



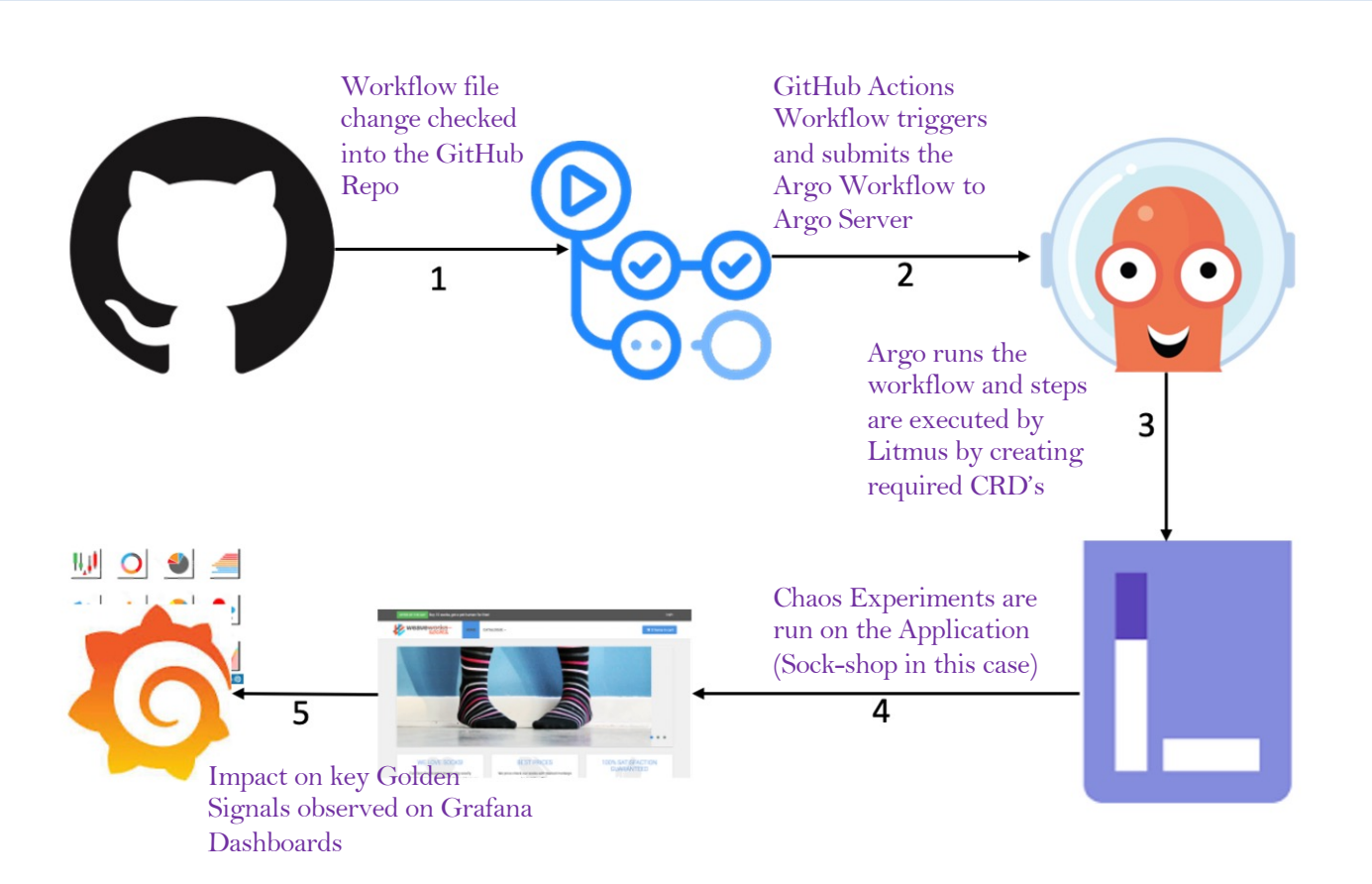
- ❖ Aug 2021 – Art of the possibilities around Chaos practice and installation methods ( Aug 2021- Sep 2021)
- ❖ Started Utilizing Chaos Engineering as part of Cloud Native Labs SRE Associate training path– Oct 2021
- ❖ Explore Simple Chaos Experimentations – Pod Delete , Node Shutdown etc scenarios in hands-on demos – Nov 2021
- ❖ Started exploring Complex workflow-based chaos experiment – Dec 2021
- ❖ Used in Various Client Demos for explaining and demonstrating Chaos Engineering in Cloud and Cloud Native environments – Jan 2022 till now
- ❖ 20+ SRE Cohorts completed around 1000 SRE's trained
- ❖ Chaos Environments showcased for 100+ clients engagements

# Progression of Chaos Functionalities



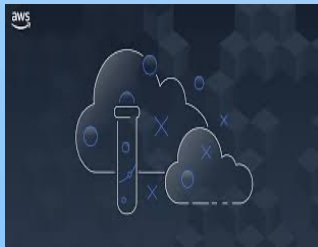
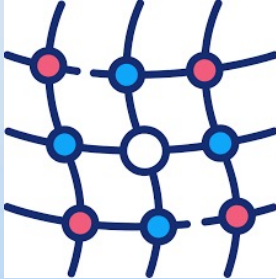
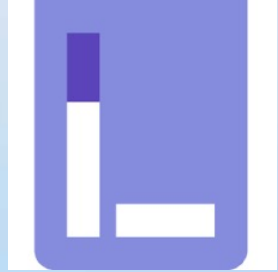
- ❖ Simple Experiments – Manually Driven
- ❖ Complex Workflow based experiments
- ❖ ArgoCD Integration - Complete GitOps Based flows
- ❖ CI/CD Integration for Automated Chaos Experiments – Jenkins, GitHub Actions
- ❖ Technical Domains – Public Clouds (Azure, AWS), Kubernetes based environments, Private Cloud/On-Prem Based Chaos Experimentation

# Chaos Workflow Example with LitmusChaos





# Key Points – Cloud Native Chaos Toolsets



- Open-Source with Enterprise versions
- Compatible with all flavors of K8s, k3s, managed k8s etc. as well as Cloud platforms
- Detailed API and CRD allowing complex logic/scenario implementations
- GitOps Support(Argo Workflow), Observability Support (Prometheus Exporter ), GitHub Actions Support
- Great Documentation
- Enterprise version like Harness Chaos module, Gremlin, Azure Chaos Studio



Experience the Chaos practices and Path for SRE  
enablement in context to your Organization.

Reach us out at: [sre\\_cnl@hcl.com](mailto:sre_cnl@hcl.com)

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