





Lessons Learned

Growing Chaos != Chaotic

When introducing newer approaches, you want to safely build the practice based on valuable earlier successes to reduce fear.

CHAOS

Start with why

Have a goal of what you want to achieve before you apply the how.

Human and Software Systems

When looking to apply this practice, you must consider both the human and the software systems involved.



Larry becomes defensive when first approached about applying chaos experiments in production at ACME corporation.

Align the Introduction of Chaos with Organized Experiments

Optimize engineering focus on the introduction of chaos as planned experiments.

Minimize the opportunity for chaos to become a scape goat for mysterious issues.



Share Risks of the Unknown

Identify known unknowns that impose reliability risks and how you can manage it by obtaining more information through experiments.



Prepare for the Experiment

Describe the scenario, what is expected to occur, how it will be measured, who is needed.

Identify prerequisites that are needed to be completed (ex. improved telemetry on connection refresh of data store)



Value of Specific Scenarios

Storytelling is more effective when you can articulate specific scenarios that can visualize larger potential failure.



Build Dev/Test Momentum

Practice planned experiments in an environment safe to fail, and then share the value of the learning.



When experimenting with your known unknowns, capture and advertise the benefits of the experiments (ex. incident alternative).

Proactive versus Reactive

By addressing known unknowns through planned experimentation, you can improve how the team faces uncertainty.



Observability is Critical You need easy access to essential telemetry data of all the parts of the system.



You want to be able to ask different and new questions of your system without having to change the system.

When you discover a gap in visibility, focus on how to make it easy to rebuild your system with the improvement through low coordination.

Build Patterns to Learn in Prod

Find ways to contain or control traffic flows so you can safely learn or experiment in production.



Consider ways to replicate or simulate traffic to ensure live traffic flows are not obstructed.

Understand and Embrace needed Compliance

Production systems will bear more compliance and controls.



Much of this is around risk, so focus on the introduction through low-risk scenarios (ex. non-live systems being built).

Plan to be Surprised

We generally always learn something new about the larger system and the effects



of compounding failures.

Capture what was surprising (actual results vs. what was the expected results) in an open and searchable repository.

Plan added time to digest the surprises.

Prepares Your Team

Your entire team may not be able to participate, but they should be able to learn from the findings.



Experiments help you practice how you look into the system, where signals normally arise, and identifies gaps on essential telemetry for broader insight.



Summary



Thank you!



