

ROOT ZERO VAULT

Actions Science Starter Kit

Choose one consequential action and test the whole connection

This kit helps engineering, security, operations and GRC teams define one exact action, map who may authorize it, locate the point where permission must be enforced, and decide what another person should be able to verify afterward.

Define	Enforce	Verify
Name the exact effect and its boundaries	Check authority before the destination produces the effect	Retain evidence that supports an independent challenge

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How to use this kit

A bounded team exercise, not a certification or deployment finding

The website explains the problem through one room-finding release. This kit helps your team apply the same structure to one action of its own. Use existing controls first. Actions Science does not require a new job title, a software purchase or adoption of Root Zero Vault.

A 30 minute planning session

Minutes	Work	Output
0-5	Review the room-finding example	Shared understanding of the exact action
5-10	List candidate actions	One consequential action selected
10-20	Complete the six-pillar action contract	Known facts, owners and unknowns
20-27	Choose the first challenge tests	Expected decisions and evidence
27-30	Assign the next smallest test	Owner, date and stop or expansion condition

Thirty minutes is a planning target. A real action may require deeper technical, legal, safety or operational review. Completing the worksheet does not authorize an action or establish that a deployed control works.

What good looks like at the end

- The team can state one exact action in a single sentence.
- Authority, operation, target ownership and independent review remain distinct.
- The team knows where the final permission check occurs and which routes could bypass it.
- Success, refusal, change, replay and missing-evidence cases have expected outcomes.
- Every conclusion identifies the evidence and assumptions that support it.

The companion action

One story across the website, System Map, briefing and Starter Kit

Publish the owner-approved room-finding build 1.1 to Production once, before authorization expires.

Step	What happens	Why it matters
1	The AI produces a correct room-finding fix in build 1.1	Correct content does not create Production authority
2	The engineer requests Production under Test-only authority	The request is refused before the covered effect
3	The engineer deploys build 1.1 to Test	Legitimate work succeeds within the existing scope
4	The owner approves exact build 1.1 for Production	Authority binds to the artifact, target, use and expiry
5	Production permits build 1.1 within those limits	The destination checks the permission before release
6	Build 1.2 contains different bytes	It is a different action and needs separate authority

What the local companion establishes

Its embedded RSBIS WebAssembly verifier performs real local checks. It shows permit and refuse decisions, binds the example to exact inputs, records local observations, and supports local record checking.

What it does not establish

The downloadable page controls its own grants, signing key, clock and preview targets. It does not establish independent Production enforcement, durable organizational history, native deed issuance, a customer-qualified deployment, or measured business value.

The complete action journey

Read each row across, then follow the action downward

Stage	Existing capabilities	Governed action	Retained evidence
1 Define	AI, data and software checks	Pin build 1.1, Production and parameters	Action identity and inputs
2 Authority	Owners, identity, access and approvals	Deed establishes the right and its limits	Authority and policy versions
3 Decide	Policy engines and agreed rules	Gate permits or refuses the exact request	Permission or refusal
4 Enforce	Destination controls and effect credentials	Production matches build, target, expiry and use	Observed result or refusal
5 Recheck	Audit, archives and independent review	Reviewer recomputes the decision offline	Decision, trust inputs and history

Deed Gate Chain

Responsibility	Question	Role across the journey
Deed	Who has the right?	Carries authority and limits for the exact action
Gate	May this happen?	Decides before the effect and supports target enforcement
Chain	Can another person check it?	Retains authority, decisions, outcomes and later changes

A changed build stops. Approval for build 1.1 cannot authorize build 1.2, another target or a replay. A permit alone also does not prove that the intended effect occurred.

Six views of one action

The Actions Science pillars stay connected across the journey

Pillar	Team question	Useful output
Semantics	What exactly changes, where and for whom?	Exact action, target, payload and affected parties
Authority	Who may authorize it, under which limits?	Owner, delegation, conditions, expiry and approvals
Execution	Where is permission enforced before the effect?	Credential holder, final check and bypass surface
Evidence	What can another person verify?	Request, decision, attempted execution and observed result
Continuity	What happens during failure, delay or change?	Retry, revocation, restart and uncertainty behavior
Assurance	How strong is the finding, and what challenges it?	Reviewer, methods, assumptions and limitations

The working cycle

1 Define	2 Hypothesize	3 Prepare	4 Challenge	5 Judge	6 Improve
Name the exact effect and surface	State what must hold and how to disprove it	Assign owners and gather evidence	Try bypass, substitution, replay and change	Record supported claims, gaps and contradictions	Fix mechanisms and refine requirements

The cycle produces bounded findings and reusable requirements. A relevant change reopens the affected requirement or test.

Six tests for the complete action path

Test the integrated path and its evidence

Test	What the test asks	Room-finding example
1 Pre-action decision and rejection	Does a deterministic decision occur before the effect, and does refusal leave usable evidence?	The initial Production request is refused under Test-only authority
2 Historical policy and authority	Can a reviewer reconstruct the rules and legitimate authority that applied at that time?	The owner approval and policy version remain available
3 Decision-bound execution	Can a permit for one request authorize another artifact, target or use?	Build 1.1 approval cannot release build 1.2
4 Mediation assurance	Do tests cover the declared routes to the effect, and do contradictions restrict affected operation?	Every declared Production route enters the checked boundary
5 Operator-independent replay	Can another reviewer recompute the decision offline using retained evidence and established trust inputs?	The reviewer checks the original decision without rerunning the release
6 End-to-end semantic coherence	Do identity, authority, permission, effect and verification refer to the same event?	The record remains about build 1.1, Production, one use and the observed outcome

Acceptance remains bounded to the tested deployment, declared surface and trust assumptions. A narrower review may still expose useful gaps, but it does not satisfy a broader claim.

Action inventory

List candidate actions, then select one manageable test boundary

#	Candidate action	Who authorizes it today	Where the effect occurs	What could go wrong
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Include actions whose incorrect refusal would disrupt important work. Prefer an action with a meaningful effect, a visible destination boundary and an achievable first test.

Selected action and reason

Next smallest test

Selected action contract

Record unknowns as work to resolve

Exact action: operation, payload or artifact, destination, affected people and expected result

Authority: acting identity, delegation, authority owner, limits, expiry and required approvals

Execution: target, operator, component holding effect credentials and check immediately before the effect

Evidence: request, authority and policy version, decision, attempted execution and observed outcome

Continuity: changed input or target, revocation, retry, restart, unavailable permission and unknown outcome

Assurance: reviewer, reproduction method, assumptions to challenge and route to correction

Owners boundaries and routes

Keep decision rights, operation and review distinct

Responsibility	Named owner	Decision or duty
Authority owner		Approves the action and its limits
Application owner		Owens the proposing application and its request
Target owner		Controls the destination and effect credentials
Connection owner		Maintains the action contract across handoffs
Independent reviewer		Challenges the claim using retained evidence
Affected person or representative		Raises a challenge or requests correction where applicable

Declared action surface

Systems that participate in the action

Shared action identifier or exact-action commitment

Routes that can reach the destination or obtain effect credentials

How each system preserves meaning and governing context

Legitimate work that must succeed

What a refusal should explain and enable next

Challenge plan

Agree on expected behavior before running the trial

Challenge	Expected outcome	Evidence to retain	Owner and status
Exact action, valid authority and required conditions	Intended effect occurs	Approval, decision and observed result	
Correct action, but authority missing or outside scope	No unauthorized effect and a usable refusal	Refusal reason and target observation	
Artifact, payload, destination or use changes	Changed request is refused or separately authorized	Binding check and target observation	
Properly authorized work is incorrectly refused	Integration defect follows an authorized correction path	Refusal, diagnosis and successful retest	
Retry, revoked authority or uncertain completion	No blind duplicate execution and defined reconciliation	Prior-use or revocation checks and outcome reconciliation	
Required evidence is missing or altered	The limitation is visible and no unsupported success claim is made	Independent review finding	

Trial owner and date

Conditions for expanding or stopping the trial

Evidence and result record

Separate what is supplied from what the trial actually demonstrates

Evidence item	Location or identifier	Origin checked	Complete for claim	Reviewer note
Exact request and action identity				
Authority, delegation and approval				
Applicable policy and version				

Evidence item	Location or identifier	Origin checked	Complete for claim	Reviewer note
Permit or refusal decision				
Destination enforcement observation				
Observed outcome or uncertainty				
Trust, key and change history				

Evidence item	Location or identifier	Origin checked	Complete for claim	Reviewer note
Independent recommendation result				

Result labels

Label	Use it when
Supplied	The kit or implementation includes the mechanism or instruction
Observed locally	Your team ran it in a local or controlled teaching environment
Demonstrated in deployment	The selected target and complete covered path produced retained evidence
Demonstrated independently	Another qualified person reproduced the agreed finding without relying on the operator's assertion
Planned or unknown	The work has not run, the evidence is unavailable, or the result remains unresolved

Decision next step and claims boundary

Turn one trial into a bounded conclusion

Trial decision

Field	Record
Supported conclusion and exact scope	
Gaps, contradictions and unresolved assumptions	
Legitimate work and incorrect refusals	
Review time, integration effort, latency and cost	
Next action: expand, correct, repeat, pause or stop	

Using Root Zero Vault as an implementation profile

Actions Science can be applied with existing controls. Root Zero Vault's RSBIS profile offers Deed, Gate and Chain as one architecture intended to preserve the relationships among authority, decision, permission, effect and historical evidence. A capable alternative may satisfy the same requirements. Compare complete action paths against the same scope and obligations.

Claims boundary

- A design, source implementation or passing test does not by itself establish customer deployment performance.
- A local companion run does not establish independent enforcement, durable history or Production safety.
- A permit does not establish that the destination produced the intended effect.
- A successful trial supports only the tested action, target, routes, versions, evidence and trust assumptions. Time savings, risk reduction and comparative advantage remain outcomes to measure.

Next: Continue at <https://rootzerovault.com/actions-science>. Use the included 12-slide briefing for a team introduction, then request the full Implementation Kit when you are ready to connect and qualify a real action path.