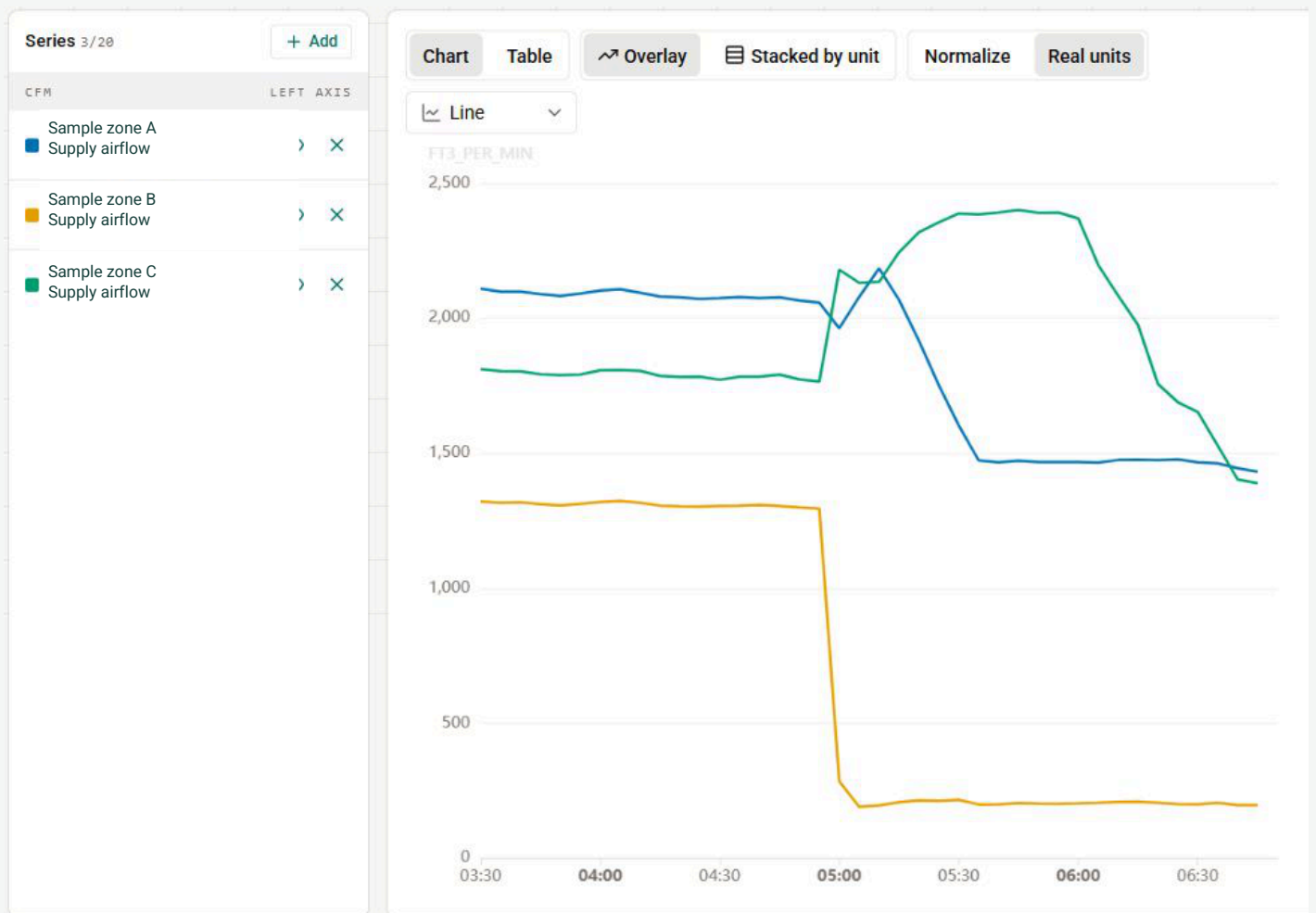


Deploy fast. Find issues. Save energy.

Connect building data, identify operating issues and put a cost against the problem. Prioritize the repair, verify the improvement and repeat.



REAL EQUIPMENT. ONE SHARED CFM SCALE.

Three anonymized VAV airflow series. October 23, 2026, 03:30-06:50 MDT; five-minute averages. Observed operation, not a controlled test or a savings result.

THE CUSTOMER OUTCOME

Find it. Price it. Repair it. Repeat.

Use fault detection and diagnostics (FDD) to build a practical maintenance and energy-improvement loop.

01 / DEPLOY

Connect quickly

Start with the available BAS data and a scoped point list.

02 / FIND

See the issue

Use equipment context, trends and fault diagnostics.

03 / QUANTIFY

Price the impact

Estimate avoidable cost using site-specific inputs.

04 / REPAIR

Prioritize action

Give the service team evidence and a clear next step.

05 / VERIFY

Check the change

Compare conditions and retest where appropriate.

06 / REPEAT

Build momentum

Apply the learning to the next asset or site.

Make the repair decision easier.

A fault becomes more useful when its consequence is visible: the operating condition, the duration, the estimated energy or cost impact and the evidence behind the estimate. That gives the owner and service partner a basis for deciding what to repair first.

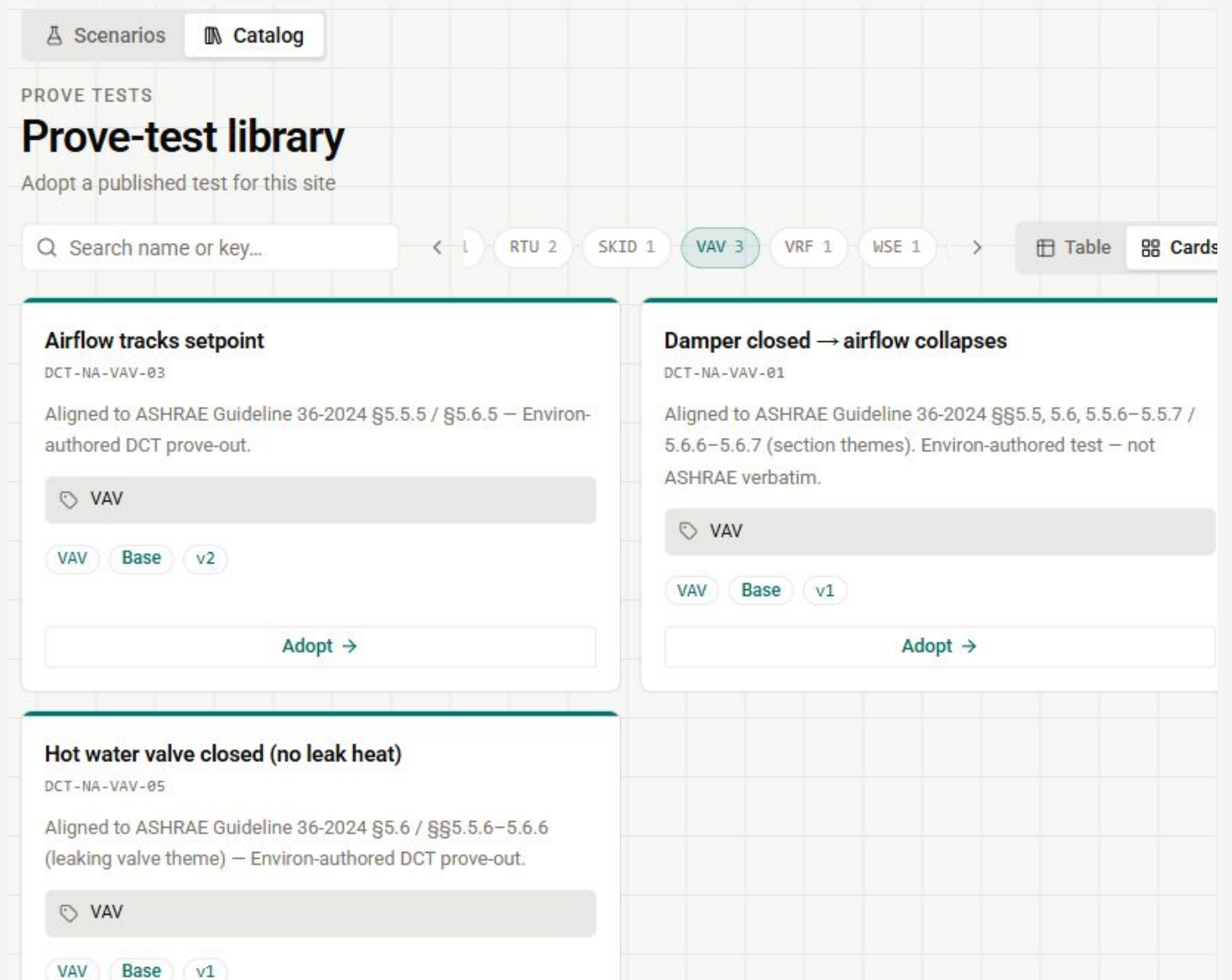
Cost impact supports a decision. Verification closes the loop.

Use site utility rates, equipment characteristics and observed behavior. After the repair, compare equivalent operating conditions before describing the result as realized savings.

DIGITAL COMMISSIONING / VAV

Ask a testable equipment question.

The Digital Commissioning Tool (DCT) connects an Environ-authored test to equipment points and site-specific parameters.



The screenshot displays the 'Prove-test library' interface within the Environ Digital Commissioning Tool (DCT). At the top, there are tabs for 'Scenarios' and 'Catalog'. Below the tabs, the section is titled 'PROVE TESTS' and 'Prove-test library'. A search bar is present with the placeholder text 'Search name or key...'. To the right of the search bar, there are navigation buttons for 'RTU 2', 'SKID 1', 'VAV 3' (which is highlighted), 'VRF 1', and 'WSE 1'. Further right are buttons for 'Table' and 'Cards'. The main content area shows three test cards:

- Airflow tracks setpoint**
DCT-NA-VAV-03
Aligned to ASHRAE Guideline 36-2024 §5.5.5 / §5.6.5 — Environ-authored DCT prove-out.
The card includes a 'VAV' tag and buttons for 'VAV', 'Base', and 'v2'. An 'Adopt →' button is at the bottom.
- Damper closed → airflow collapses**
DCT-NA-VAV-01
Aligned to ASHRAE Guideline 36-2024 §§5.5, 5.6, 5.5.6–5.5.7 / 5.6.6–5.6.7 (section themes). Environ-authored test — not ASHRAE verbatim.
The card includes a 'VAV' tag and buttons for 'VAV', 'Base', and 'v1'. An 'Adopt →' button is at the bottom.
- Hot water valve closed (no leak heat)**
DCT-NA-VAV-05
Aligned to ASHRAE Guideline 36-2024 §5.6 / §§5.5.6–5.6.6 (leaking valve theme) — Environ-authored DCT prove-out.
The card includes a 'VAV' tag and buttons for 'VAV', 'Base', and 'v1'. An 'Adopt →' button is at the bottom.

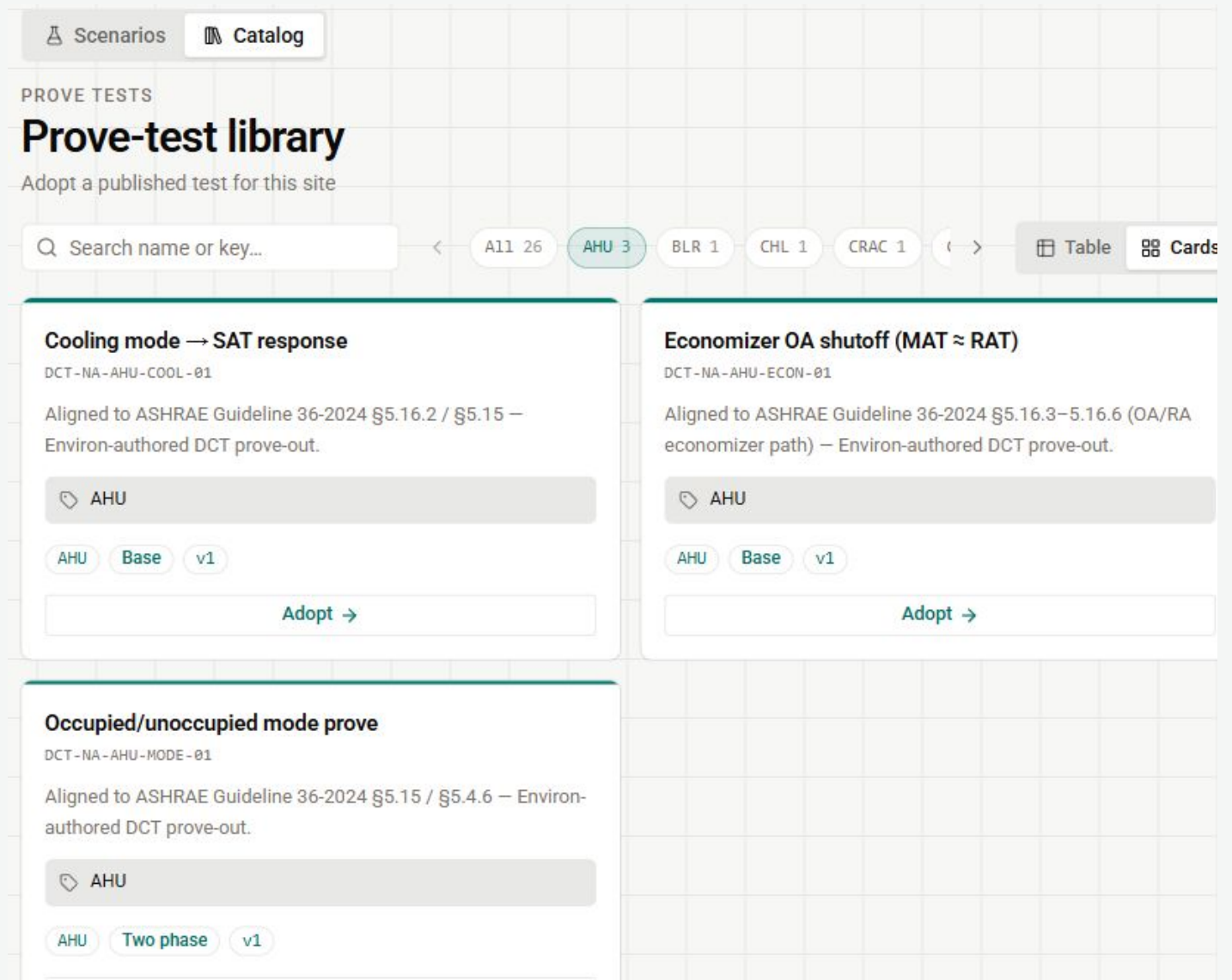
Native VAV catalog: airflow tracking, closed-damper airflow and hot-water-valve behavior. Catalog view only; no test is being executed in this image.

Guideline 36 references help frame the test; equipment applicability and acceptance criteria still need review.

DIGITAL COMMISSIONING / AHU

Connect the terminal to the system.

Investigate the air handler as well as the terminal unit so the team can examine the wider operating context.



The screenshot displays the 'Prove-test library' interface. At the top, there are tabs for 'Scenarios' and 'Catalog'. Below the tabs, the section is titled 'PROVE TESTS' and 'Prove-test library'. A subtitle reads 'Adopt a published test for this site'. A search bar is present with the placeholder 'Search name or key...'. To the right of the search bar is a navigation bar with buttons for 'A11 26', 'AHU 3' (which is highlighted), 'BLR 1', 'CHL 1', and 'CRAC 1'. Further right are buttons for 'Table' and 'Cards'. Below the navigation bar, there are three test cards. Each card has a title, a DCT-NA-AHU-XXX-01 identifier, a description of the test aligned to ASHRAE Guideline 36-2024, a list of components (AHU, Base, v1), and an 'Adopt' button with a right arrow.

Cooling mode → SAT response
DCT-NA-AHU-COOL-01
Aligned to ASHRAE Guideline 36-2024 §5.16.2 / §5.15 – Environ-authored DCT prove-out.
AHU Base v1
Adopt →

Economizer OA shutoff (MAT ≈ RAT)
DCT-NA-AHU-ECON-01
Aligned to ASHRAE Guideline 36-2024 §5.16.3–5.16.6 (OA/RA economizer path) – Environ-authored DCT prove-out.
AHU Base v1
Adopt →

Occupied/unoccupied mode prove
DCT-NA-AHU-MODE-01
Aligned to ASHRAE Guideline 36-2024 §5.15 / §5.4.6 – Environ-authored DCT prove-out.
AHU Two phase v1
Adopt →

Native AHU catalog: cooling response, economizer outside-air shutoff and occupied/unoccupied-mode examples. These are Environ-authored tests with ASHRAE Guideline 36-2024 references.

The catalog reference is not ASHRAE certification or a completed commissioning result.

A REPEATABLE SETUP

Tailor the scenario. Preserve the intent.

A guided flow connects the test template to the equipment and the conditions that matter at this site.

 **Set up Damper closed → airflow collapses** 

Pick the connector, then a device for each piece of equipment, check the parameters and name it. Everything stays editable on the page afterwards.

1

 Connector —

2

 Variable Air Volume Box —

3

 Air Handling Unit —

4

 Parameters —

5

 Name

Client Admin published-test setup: connector, terminal equipment, AHU, parameters and name.

 **Set up Damper closed → airflow collapses** 

Pick the connector, then a device for each piece of equipment, check the parameters and name it. Everything stays editable on the page afterwards.

✓

 Connector —

✓

 Variable Air Volume Box —

✓

 Air Handling Unit —

4

 Parameters —

5

 Name

Most adoptions keep the template defaults — change only what this site needs.

 **Parameters** 6 · all defaults

Optional — template defaults apply

Native parameter-review step. Template defaults can be reviewed and overridden; the pictured preview was not saved or run.

PUBLISHED TESTS

Adopt and configure

Client Admin setup supports equipment binding and site parameters.

NEW TEST LOGIC

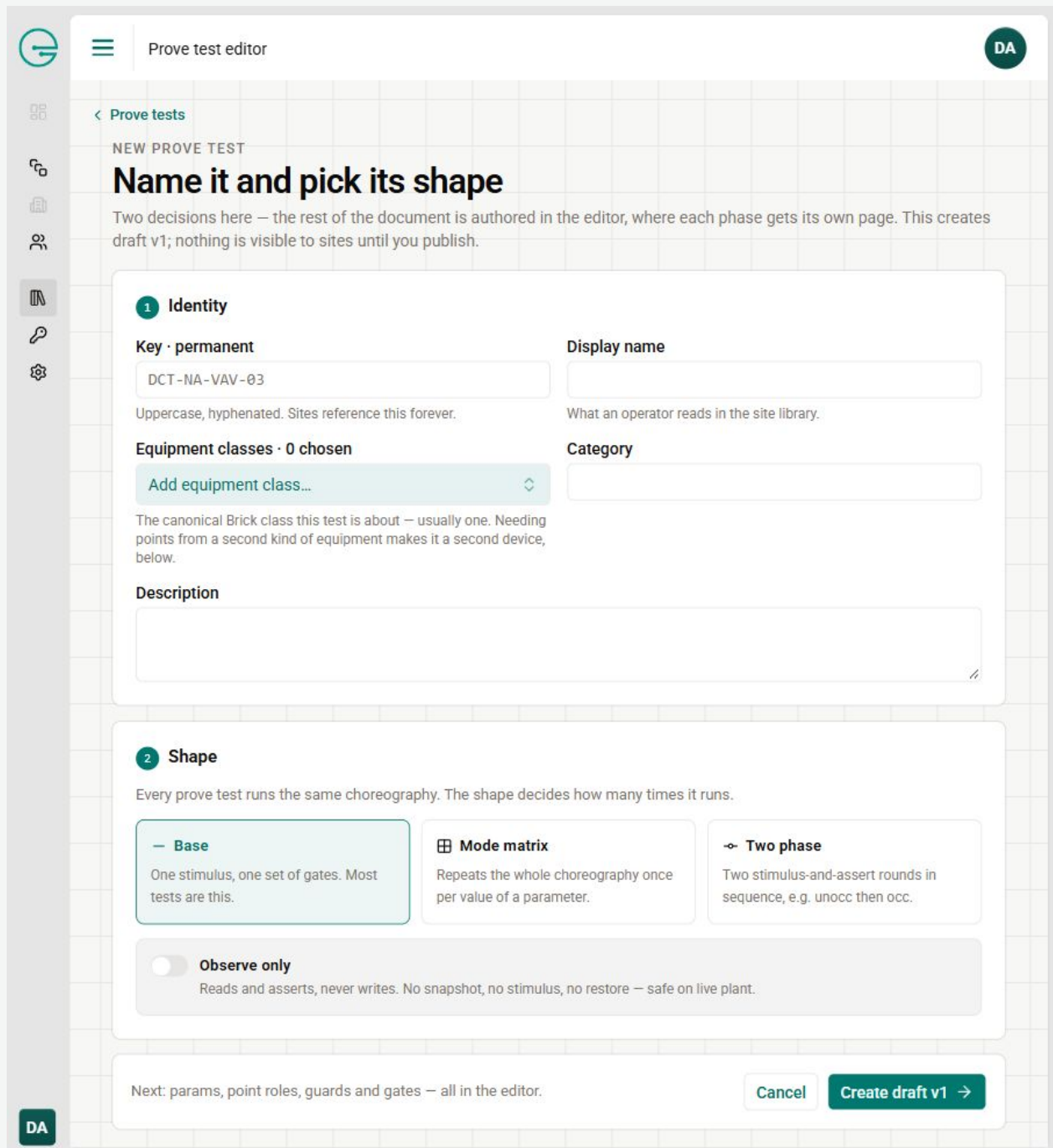
Author in DCT

Super Admin authors new definitions; see the creation form on the next page.

CUSTOM TEST DEFINITIONS / SUPER ADMIN

Build a test around the question.

Administer > Prove tests > New test / Identity, Brick equipment classes, shape and Observe-only option.



Prove test editor

< Prove tests

NEW PROVE TEST

Name it and pick its shape

Two decisions here — the rest of the document is authored in the editor, where each phase gets its own page. This creates draft v1; nothing is visible to sites until you publish.

1 Identity

Key · permanent

Uppercase, hyphenated. Sites reference this forever.

Equipment classes · 0 chosen

Add equipment class...

The canonical Brick class this test is about — usually one. Needing points from a second kind of equipment makes it a second device, below.

Description

Display name

What an operator reads in the site library.

Category

2 Shape

Every prove test runs the same choreography. The shape decides how many times it runs.

— Base

One stimulus, one set of gates. Most tests are this.

Mode matrix

Repeats the whole choreography once per value of a parameter.

Two phase

Two stimulus-and-assert rounds in sequence, e.g. unocc then occ.

☐ **Observe only**

Reads and asserts, never writes. No snapshot, no stimulus, no restore — safe on live plant.

Next: params, point roles, guards and gates — all in the editor.

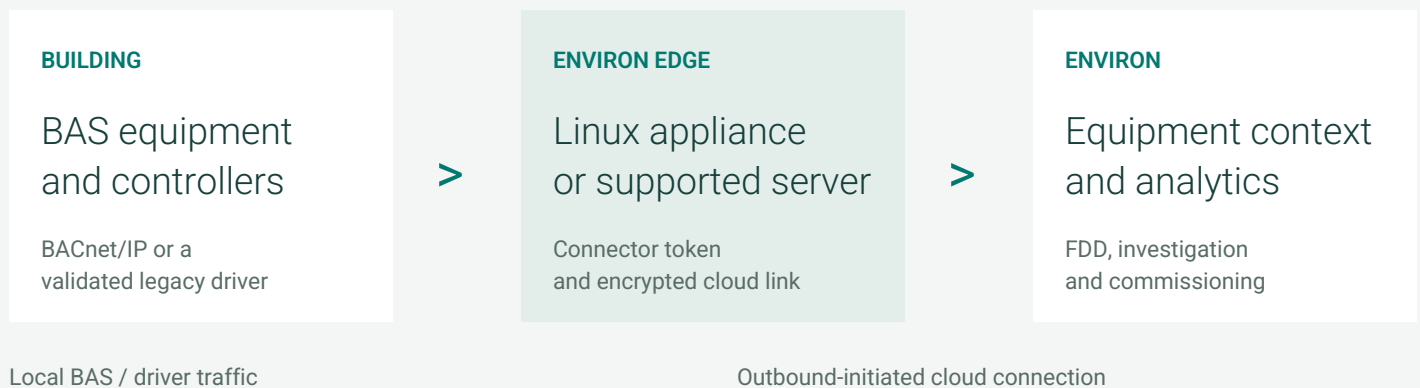
Cancel **Create draft v1 →**

Native initial creation form. Inspection only; no draft was saved, published or executed for this capture.

EDGE DEPLOYMENT / SECURITY BY DESIGN

Bring existing building data forward.

Environ Edge can run on a compact Linux appliance or as software on a supported server, connecting raw BAS data to the analytics workflow.

**CONNECT THE SITE**

Use the data you have

Connect BACnet/IP and validated legacy drivers. Confirm driver availability, network access and equipment coverage during scoping.

SECURE THE CLOUD LINK

Initiate from the edge

Connector-specific secure tokens authenticate an encrypted, outbound-initiated connection. The cloud link needs no inbound firewall opening.

A clear boundary for the IT conversation.

Local BAS and driver communication remains a separate network requirement. Agree the supported host, access boundaries, token handling and update responsibilities with the deployment team. Hardware, field work and custom integration are scoped separately.

PLAN YOUR NEXT STEP

Start with a focused site. Build a repeatable service.

Begin with a focused building and equipment review. Agree the data scope, operating priorities and evidence needed to support the next service decision.

01 Define the opportunity

Choose the building, equipment and operating issue worth investigating first.

02 Scope the point list

Provide the available points, intended licensed count, system details and connection requirements.

03 Validate and investigate

Check data quality and equipment context, then review trends and findings with the service team.

04 Repair, verify and repeat

Agree corrective work, review the evidence and use the experience to plan the next improvement.

For pricing, contact Universal Controls.

Universal Controls Solution is an independent Environ reseller.
Ask about product availability and options for your building.

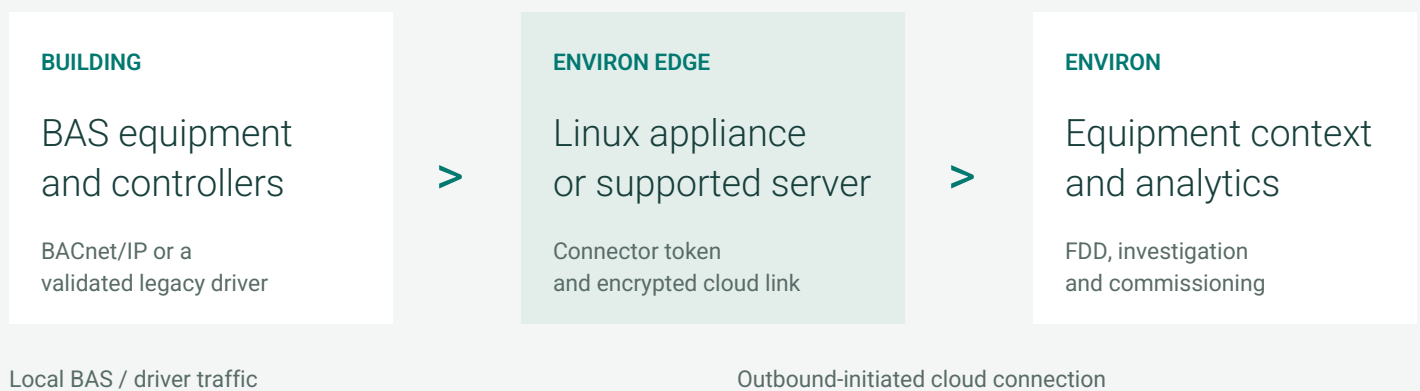
contact@uniconllc.net | (720) 282-5099 | uniconllc.net

PRODUCT AVAILABILITY AND SCOPE CONFIRMED AT QUOTATION.

CUSTOMER REFERENCE / 01

Plan the connection. Define the outcome.

Use this deployment and Digital Commissioning Tool (DCT) guide with the installing partner to scope the site, prepare the data and agree how findings and evidence will be reviewed.



01

Choose the deployment host

Compact Linux appliance or a supported server installation; confirm host resources, software versions and ownership during scoping.

02

Confirm the data path

BACnet/IP or a validated legacy driver on the building side; an encrypted, outbound-initiated connection to Environ.

03

Agree the first use case

Name the equipment, the operational question, who will review it and what evidence will support a repair decision.

CUSTOMER REFERENCE / 02

Prepare a useful point list.

The list supports the scoping discussion, equipment mapping and data-readiness review. A sample export is a useful starting point.

Provide	Why it matters
Site and equipment names	Keep each point connected to a real asset, system and location.
Point name, description and units	Separate temperatures, flows, commands, statuses and setpoints; retain useful engineering meaning.
Source / device / object reference	Identify how the connector will find each point without relying on a display label alone.
Point role and access	Distinguish read-only telemetry from commandable points. Active tests require a separately agreed command scope.
History availability and interval	Show the available time range, sampling cadence, timestamp/time-zone context and known gaps.
Equipment relationships and model	Provide BAS hierarchy and existing Haystack, Brick or custom ontology information where available.
Proposed licensed point count	Identify the points the partner intends to purchase. Confirm the billable count and scope in the quote.

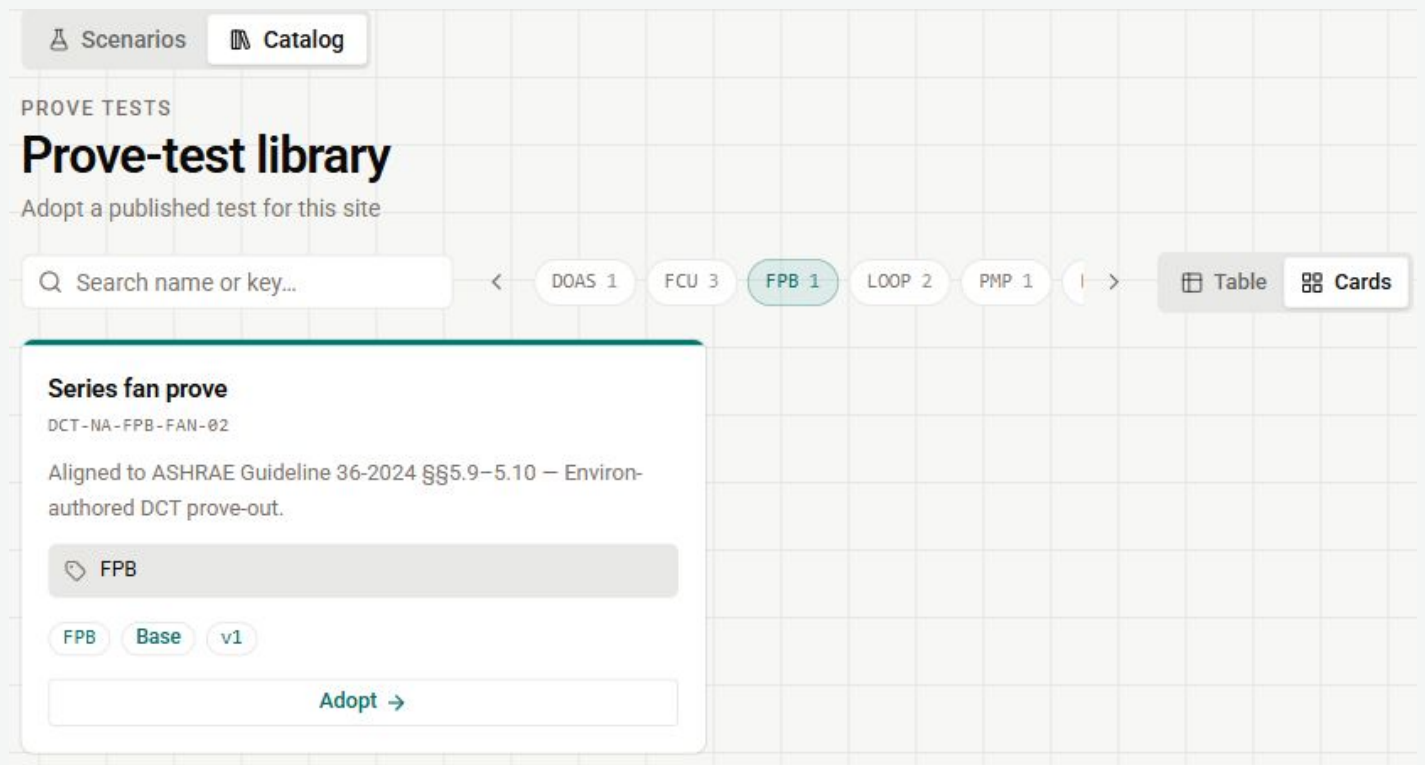
Validate before drawing conclusions.

Check units, stale or missing values, time alignment and point-to-equipment mapping. A gap in data or an incorrect binding can change the interpretation of a trend or a test.

CUSTOMER REFERENCE / 03

Configure a published DCT scenario.

Start with the equipment question, then follow the guided setup and review the site-specific bindings.



Native series fan-proving catalog example. Confirm series versus parallel equipment configuration; no run is shown.

- 01 Select the connector and equipment**
Choose the source, equipment and AHU relationship. Confirm the equipment type and configuration.
- 02 Review the point bindings**
Match each input to its sensor, status, setpoint or command. Resolve missing or ambiguous points.
- 03 Review parameters and name the scenario**
Review template defaults and change what this site requires. Give the scenario a clear name.

CUSTOMER REFERENCE / 04

Separate configuration from authoring.

Site adaptation and creation of fully new test logic are different workflows with different roles.

 **Set up Damper closed → airflow collapses** 

Pick the connector, then a device for each piece of equipment, check the parameters and name it. Everything stays editable on the page afterwards.

✓ Connector

 —

✓ Variable Air Volume Box

 —

✓ Air Handling Unit

 ·

4 Parameters

 —

5 Name

Most adoptions keep the template defaults — change only what this site needs.

 **Parameters** 6 · all defaults

Optional — template defaults apply

Client Admin defaults and overrides. Unsaved preview; the Super Admin creation workflow is covered on page 13.

 **Stop on first failure**

End the run at the first failing gate instead of evaluating the rest.

Cancel

Save changes

 **Change which points it drives**

Re-bind the test's roles to different devices or points.
Parameters stay as they are.

Re-bind...

NEW TEST LOGIC / SUPER ADMIN > DCT

Super Admin users can open Administer > Prove tests > New test to create a new definition. Review purpose, equipment applicability and acceptance criteria before release to a site.

Author a new test definition.

As Super Admin, open Administer > Prove tests > New test. Begin with identity and a test shape; the form leads into phase-level authoring.

Definition choice	What to establish
Permanent key and display name	Use a stable identity for the definition and a name the operator can recognize in the site library.
Canonical Brick equipment class	Identify the equipment type the test applies to, then review the required devices and point roles.
Category and description	Describe the test question and applicability so another engineer can understand its intended use.
Base shape	One stimulus with one set of evaluation gates.
Mode matrix shape	Repeat the same test choreography for each value of a parameter.
Two phase shape	Two stimulus-and-assert rounds in sequence, such as unoccupied and then occupied.
Observe-only option	Read and assert without equipment writes. Confirm the required operating conditions and data quality.

Keep the version tied to the evidence.

The inspected editor marks a published version as immutable and site scenarios freeze that version. Preserve that definition context when reviewing or repeating the test.

CUSTOMER REFERENCE / 06

Plan the run. Preserve the evidence.

Agree the execution conditions with the building operator and partner before using a test that can affect equipment.

Stage	Review and retain
Before execution	Applicable equipment and sequence; correct point bindings; required conditions; the approved operating window and any command authority.
During execution	Observe equipment state and data quality. Follow the agreed interruption, override and restoration procedure for the site.
After execution	Review the recorded result, response and exceptions against the test question and acceptance criteria. Identify the action owner.
After corrective work	Repeat the relevant observation or test under comparable conditions. Retain the evidence that supports closure or further investigation.

A status is only useful with its context.

An incomplete, skipped or command-blocked run does not establish equipment performance. Review why the run stopped or could not proceed before deciding whether it needs a configuration fix, a different operating window or further investigation.

Suggested handover record

Site / equipment / scenario / time range / bindings / conditions / result / exceptions / corrective action / verification evidence.

CUSTOMER REFERENCE / 07

Turn evidence into an action plan.

Keep the operational question, estimated impact, repair decision and verification record together.

Estimate impact with site data.

Combine measured load, operating hours and the site's utility rates to estimate avoidable energy costs. Review the assumptions and compare equivalent operating conditions after a repair before describing savings as realized.

For pricing, contact Universal Controls.

Customer question	Working answer
What makes the estimate useful?	Visible units, rate, duration and equipment/site assumptions. Replace assumptions with measured information where available.
How should repairs be prioritized?	Consider cost impact alongside comfort, reliability, equipment risk, repair cost and the confidence in the diagnosis.
How is improvement verified?	Compare appropriate pre/post conditions and retest where useful. Account for weather, occupancy, schedules and other changes.
What belongs in the handover?	Connection scope, point list, mappings, findings, test evidence, action ownership and the plan for continued review.

Partner coordination: agree who maintains the edge host and network, who administers tokens and updates, who approves active tests, and who delivers repairs and customer reporting.