

SOLUTION SCENARIO / AS OF 2026-10-02

Certificate network admission without unnecessary licensing

A tighter boundary that still lets engineering work.

ILLUSTRATIVE / PROPOSED SELECTIONS / MODELED FINANCIAL RESULTS

This example uses its own size and budget; figures are illustrative, not customer results or quotes.

Scenario and intended outcome

ENVIRONMENT

Illustrative 40-user engineering office with managed devices, guest wireless and specialist operational systems.

OBJECTIVE

Separate unnecessary paths and admit enrolled devices through a maintainable certificate-based policy.

SCOPE

A representative wired/wireless admission and segmentation pilot, using compatible retained switching and wireless infrastructure.

MODEL BOUNDARY

Bounded admission/segmentation operating component; larger NAC feature sets require a new scope and real quote.

A repeatable selection method

START WITH THE REQUIREMENT

Map the business workflow, data classification, integrations, scale, recovery objectives, operator skills and support hours. Treat eligibility, security and mandatory features as pass/fail gates before scoring price.

COMPARE SUITABLE CANDIDATES

For candidates that pass the gates, score functional fit 30%, operational maintainability 25%, integration and data portability 20%, three-year total cost 15%, and supplier/support resilience 10%. These are proposed weights, not completed vendor test results.

PROVE THE CHOICE

Run a representative pilot, negative tests and recovery exercise. Price hosting, retention, patching, engineering, support, training and exit. A lower license bill wins only when the complete solution meets the requirement.

Proposed selections and alternatives

Illustrative options for evaluation; selection does not represent a completed vendor test or an actual quote.

FIRST, PASS THE GATES

Map the business workflow, data classification, integrations, scale, recovery objectives, operator skills and support hours. Treat eligibility, security and mandatory features as pass/fail gates before scoring price.

PROPOSED SCORING WEIGHTS AFTER THE PASS/FAIL GATES

For candidates that pass the gates, score functional fit 30%, operational maintainability 25%, integration and data portability 20%, three-year total cost 15%, and supplier/support resilience 10%. These are proposed weights, not completed vendor test results.

PROPOSED DIRECTION	ALTERNATIVE TO TEST
Proposed: FreeRADIUS for bounded EAP-TLS admission Evaluate the open-source RADIUS backend for enrolled devices and explicit authorization. Network admission remains distinct from Keycloak application SSO.	Retain a commercial NAC option such as ClearPass when required profiling, onboarding, posture workflows, integrations or support exceed the bounded policy.
PROPOSED DIRECTION	ALTERNATIVE TO TEST
Proposed: retain compatible network equipment and PKI Use customer-approved enrollment and trust with documented device identities, permitted VLANs and minimum required flows.	Replace incompatible hardware only where the pilot establishes a requirement. A certificate alone does not prove device authorization or segmentation.
PROPOSED DIRECTION	ALTERNATIVE TO TEST
Proposed: explicit zones and operator runbooks Keep management, staff, guest and operational roles distinct. Test actual required and prohibited paths.	A new firewall or advanced NAC platform is an additional option when enforcement and operational requirements demand it; this example does not claim feature parity.

PROOF BEFORE CHOICE

Run a representative pilot, negative tests and recovery exercise. Price hosting, retention, patching, engineering, support, training and exit. A lower license bill wins only when the complete solution meets the requirement.

Architecture flow and delivery path

The sequence below follows the supplied scenario flow and implementation stages.

Architecture flow

01

Enrollment -> device identity

An approved device receives a suitable certificate and trust configuration through authorized custody.

02

Network device -> AAA policy

The access device submits the admission request; the backend verifies identity, authorization and the agreed certificate-status policy.

03

Admission -> enforced boundary

The network applies the permitted role and actual routing/firewall policy, then the engineering workflow is tested.

Implementation stages

01 Discover business flows	Map specialist applications and management dependencies; confirm network and client capabilities.
02 Pilot and test negatives	Use an isolated, authorized test scope for valid, unknown, revoked and expired identities and unavailable status dependencies.
03 Stage changes	Back up device configuration; agree maintenance and rollback with the network owner. Expand only after a real client association and permitted-flow test.
04 Handoff	Document enrollment, revocation, policy changes, outages, device recovery and commercial-support triggers.

Acceptance and operating handoff

Acceptance evidence is scoped to the illustrative component described in this brief.

Acceptance checks

01

Acceptance check 1

A registered device completes an actual network association and reaches only permitted services.

02

Acceptance check 2

Unknown, expired and revoked identities are rejected as specified.

03

Acceptance check 3

Guest and restricted zones cannot reach prohibited internal paths.

04

Acceptance check 4

Rollback restores the previously approved engineering workflow.

Common handoff

01

Handoff 1

Customer owns approvals and business priorities; L8DT owns only the operating tasks and access authority in the signed schedule.

02

Handoff 2

Deliver versioned configuration, asset/data-flow registers, escalation and recovery runbooks, license obligations, known gaps and an acceptance record.

03

Handoff 3

Rehearse the operator workflow and restore before acceptance. Record owners, backup owners, training attendance, support hours and supplier escalation.

04

Handoff 4

Review coverage and evidence monthly; revisit capacity and access quarterly. Define export, credential removal and retention at termination.

36-month economics

Synthetic scenario inputs and calculated model outputs. These values are not a quote or realized savings.

Monthly assumptions and setup

Input	Illustrative commercial comparator	Illustrative L8DT model
One-time setup	\$9,000	\$12,500
License / month	\$650	\$0
Infrastructure / month	\$150	\$250
Service / month	\$750	\$950
Monthly cash total	\$1,550	\$1,200
Customer effort / month	6 hours	10 hours
Customer hourly value	\$65	\$65
Customer effort value / month	\$390	\$650

Calculated totals across 36 months

36-month total	Commercial comparator	L8DT model
Cash TCO (setup + monthly cash)	\$64,800	\$55,700
Customer-effort value	\$14,040	\$23,400
Economic TCO (cash + customer effort)	\$78,840	\$79,100

Modeled comparison outputs

NET CASH AVOIDANCE +\$9,100	COST AVOIDANCE 14.04%	CASH ROI 16.34%
ECONOMIC BENEFIT -\$260	PRETAX PROFIT DELTA: YEAR 1 / STEADY Y1 +\$700 steady +\$4,200	PAYBACK 10 months
L8DT EXTRA CUSTOMER TIME / MONTH 4 hours	SENSITIVITY ADD-ON / MONTH \$285	SENSITIVITY NET CASH AVOIDANCE -\$1,160

Model definitions, boundaries and references

Use the links and source notes for review. Public destination routes are targets; deployment was not verified for this package.

Definitions: cost avoidance = net cash avoidance / commercial 36-month cash TCO; cash ROI = net cash avoidance / proposed L8DT 36-month cash TCO. Economic benefit = commercial economic TCO minus L8DT economic TCO; economic TCO adds customer effort valued at the stated hourly input. Valued time is not payroll saving. Sensitivity applies the stated additional monthly L8DT operating cost for all 36 months.

REALIZED OUTCOMES

Realized ROI: NOT PROVIDED | Realized profit: NOT PROVIDED. These are not provided as customer results.

INTERPRETATION LIMIT

Illustrative scenario only. Proposed selections, input costs and modeled values are not actual customer results, completed vendor test results, or supplier quotes.

HYPOTHETICAL PROFIT-DELTA ASSUMPTION

Year-one pretax profit delta uses the modeled recurring cash difference less any incremental setup; steady-year delta uses 12 times the recurring cash difference. The model assumes costs are recognized as operating expenses with equal revenue and other costs. Capitalization, depreciation and tax treatment can differ.

Out of scope for this model

Retained hardware and Windows/PKI licenses, endpoint posture/MDM, advanced guest workflows, cabling and taxes are excluded equally. The commercial alternative is a hypothetical bounded subscription, not a ClearPass quote.

WHAT TO PROVE AND PRICE

Run a representative pilot, negative tests and recovery exercise. Price hosting, retention, patching, engineering, support, training and exit. A lower license bill wins only when the complete solution meets the requirement.

Official project and product references

FreeRADIUS project www.freeradius.org
HPE ClearPass Policy Manager www.hpe.com

Source data as of 2026-10-02.

Related L8DT destinations

Experience story /experience/engineering-segmentation/	Solution detail /solutions/engineering-segmentation/
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Website: <https://www.layer8defensetechnologies.com/>