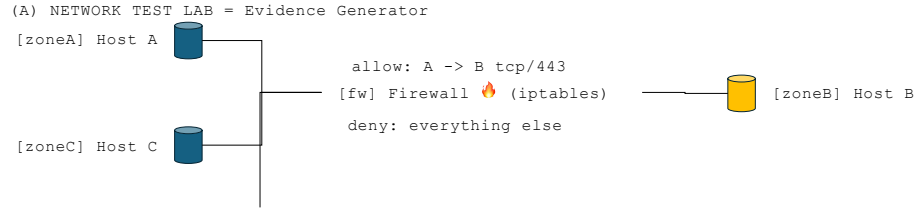
ONE CENTOS HOST (SELF-CONTAINED LAB)



tools used: curl/openssl (traffic), nmap (tests)

evidence produced: host logs (A,B,C), firewall logs (fw), nmap outputs

evidence files land here (local filesystem):
/opt/ice/evidence/logs/{zoneA,zoneB,zoneC,fw}/...
/opt/ice/evidence/scans/{zoneA,zoneB,zoneC}/...

(B) BELIEF + EVIDENCE LOOP = Test + Interpret + Preserve

belief input (explicit):
/opt/ice/plans/SP-SEG-443.json (architecture + allowed/denied + threats)

Engine X (local python) does:
read belief plan
collect logs + nmap outputs
build one "temporal bundle" (replayable test input)
/opt/ice/db/temporal/RUN-*.input.txt
submit bundle via HTTPS API to Model X (only external dependency)
receive strict-structured XRESULTS
validate + persist results + archive inputs

Model X (small API-accessible model) does:
compare BELIEF vs EVIDENCE
return XRESULTS (PASS/FAIL/DELTA with evidence references)
(note MODEL X IS NOT CONTAINED IN THE CENTOS)

durable outputs:
/opt/ice/db/permanent/xresults.jsonl (append-only history)
/opt/ice/db/artifacts/RUN-.xresults.json (single-run study artifact)
/opt/ice/db/archive/RUN-.input.txt (archived evidence bundle)

1+1 Test Lab Plans for ICE Reference Architecture (Proposed)

1 CentOS Host +
1 Low Scale Model
(accessed from CentOS to model)

The depiction to the left describes a possible plan for using a single host on an open-licensed OS, CentOS that can easily be obtained and operated on a VM. Three virtual hosts and a firewall.

The assumptions are that native commands in CentOS can emulate basic host network activity, including firewall activity. Python packages are installed as needed.

The model is a low-scale model such as ChatGPT that is accessed via APIs.

KEY RELATIONSHIP:
- The NETWORK TEST LAB (A) produces the evidence.
- The BELIEF + EVIDENCE LOOP (B) consumes that evidence + declared belief, calls Model X for interpretation, and outputs XRESULT artifacts for study.