

aiHUD is a **self-contained, read-only appliance** that sits beside your IBM i (AS/400 · iSeries). It installs **nothing** on your host, connects through **one standard port**, and can run **fully air-gapped** - including its AI, which runs locally on the appliance.

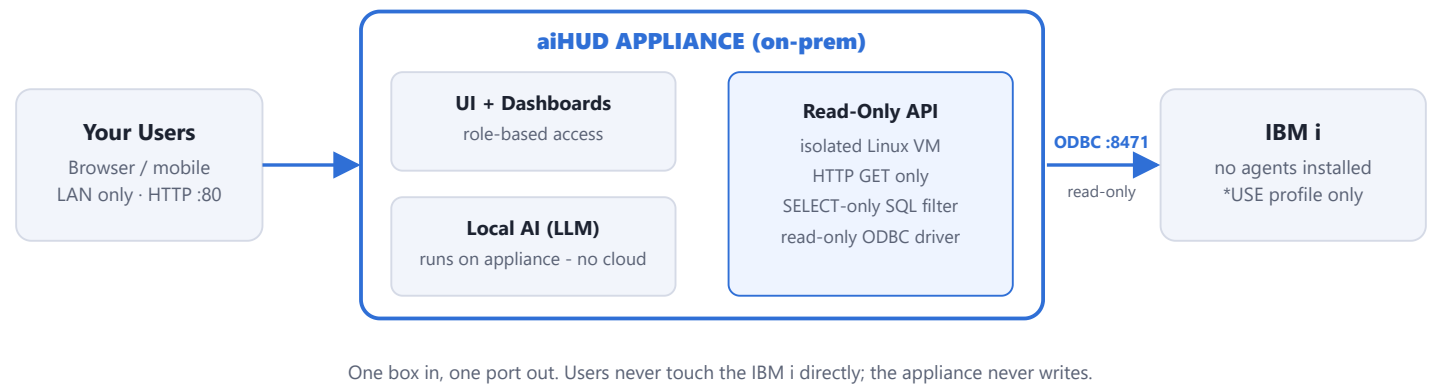
Read-Only by Design
Dedicated service profile with `*USE` authority. Writes are impossible at four independent layers.

Zero Host Footprint
No agents, no exit programs, no libraries, no PTFs. Uses the ODBC service (5770-XW1) already on your system.

One Port In
Single ODBC connection to the IBM i database service (default 8471; 9471 with TLS). Nothing else touches the host.

Air-Gap Capable
Static IP, no gateway. Appliance reaches the iSeries subnet only - no internet, no cloud, no data leaves the building.

ARCHITECTURE



FOUR INDEPENDENT READ-ONLY LAYERS

LAYER	ENFORCED AT	MECHANISM
1	IBM i user profile	Dedicated service account restricted to <code>*USE</code> authority - no write, no admin, no command line. You create it; you control it; you can revoke it any time.
2	ODBC driver	Connection locked to <code>ConnectionType=0</code> (read-only). <code>INSERT</code> / <code>UPDATE</code> / <code>DELETE</code> rejected by the driver before reaching the host.
3	API - SQL filter	Application layer permits <code>SELECT</code> statements only; DML, DDL, and <code>EXEC</code> statements are blocked outright.
4	API - transport	The data API accepts HTTP <code>GET</code> requests only. There is no code path that issues a write.

WHAT THE APPLIANCE DOES

- ✓ Queries your database through one ODBC connection
- ✓ Runs every query at uncommitted-read isolation (`WITH UR`) - never takes or waits on record locks, so production jobs are never blocked or slowed
- ✓ Caps every query with row limits - no runaway result sets, no surprise workload on your host
- ✓ Serves dashboards to your LAN over HTTP (port 80)
- ✓ Runs its AI model locally, on the appliance itself
- ✓ Stores the IBM i service profile's connection credentials root-only (`chmod 600`) inside the isolated VM - never in the UI, never in a browser
- ✓ Authenticates users against **your Active Directory (LDAP)** - or built-in accounts. Signed, expiring sessions; role-based pages. You control who gets in

WHAT IT NEVER DOES

- ✗ Install software, exit programs, or PTFs on the IBM i
- ✗ Write, update, or delete a single record
- ✗ Send your data to any cloud or third party
- ✗ Let the AI search the internet - it reasons over your data only
- ✗ Require internet access (air-gap: static IP, no gateway)
- ✗ Expose the IBM i to end users - all access brokered by the appliance

NETWORK REQUIREMENTS

CONNECTION	DIRECTION	PORT	NOTES
Appliance → IBM i	Outbound from appliance	<code>8471</code> (or <code>9471</code> TLS)	IBM i Access ODBC database service (5770-XW1) - standard, already present
Users → Appliance	Inbound, LAN only	<code>80</code>	Dashboards & mobile UI. Prefer HTTPS? Front the appliance with your own reverse proxy (IIS / nginx) - no changes needed on our side
Appliance → Internet	-	none	Not required. Optional outbound only if you enable email/chat alert delivery - and you can block it entirely with your own firewall policy

DEPLOYMENT MODEL

- ✓ Appliance arrives pre-configured - built and tested at our shop before delivery
- ✓ On-site setup is one script: point the connection at your iSeries and verify
- ✓ No change windows, no IPL, no downtime on your IBM i - ever
- ✓ Read API runs in an isolated Linux VM inside the appliance; credentials never leave it

YOU STAY IN CONTROL

- ✓ You create the service profile - disable it and aiHUD goes dark instantly
- ✓ Access is auditable on your side: one profile, one port, standard IBM i journaling applies
- ✓ User accounts and roles managed by you (LDAP or built-in)
- ✓ Full install guide available to your IT team for review before anything is connected

COMMON IT QUESTIONS

What client data lives on the box?	Almost none. Queries run live against your IBM i; results are cached in memory for 30 seconds, then gone. The only persistent business data is Pulse trend snapshots - small numeric KPI points.
How is it updated?	OS: Windows IoT Enterprise LTSC - your IT applies Windows Update on your own schedule, like any machine you manage. aiHUD updates are delivered as versioned packages applied by your team - no vendor remote access required.
What if the appliance fails?	Nightly backup to a secondary drive inside the appliance. Restore takes minutes. Worst-case loss: Pulse snapshots since the last backup. Your IBM i is never at risk; nothing of record lives on our box.
Where's the audit trail?	On your IBM i - where it belongs. The appliance is a passthrough: one profile, one port, and standard IBM i journaling captures every query it runs. There is no second system of record to reconcile.
Who can access appliance internals?	The IBM i connection credentials live inside the internal VM, readable by root only. End users never touch the VM - they only ever see the dashboards.