DemandFlow IT Asset and Service Management

DEMANDFLOW®

One record per device from enrolment to disposal, and the service desk, catalogue, changes and knowledge base that run on it

DATA SHEET

An IT estate is counted in three places that disagree: the agent console, the finance register and the ticketing tool. Nobody can say with confidence which laptops are encrypted, which licences are over-deployed, which assets are out of warranty next quarter or which change broke the service a ticket is about, because the records were never one record.

DemandFlow® keeps one record per device, fed by its own agents and by Intune, with the posture, software, licences, cost, warranty, lifecycle and disposal of that device on the same record the service desk links its tickets, changes and problems to. The IT estate is a separate entity set from the telco and data centre estate, with its own collector keys, while sharing the staff, departments, companies, vendors, cost centres, software, licences, tickets and knowledge base.

What it is

IT asset management: agents for macOS, Windows and Linux with 40 to 45 posture checks each, enrolment with activation keys, Intune sync, software and licence management with compliance, cost and depreciation, warranty and support, a posture policy engine with scores, CVE correlation, lifecycle actions and 34 shipped automations, IP address management, virtualisation inventory and IT asset disposal with wipe records and certificates. IT service management: tickets with SLAs, a service catalogue storefront with approvals, problems with known errors, changes with risk and conflict checks, releases, a knowledge base, a customer support portal and dashboards.

It sits inside DemandFlow, so a SIEM alert on a workstation raises an IT ticket with the asset linked, a fulfilled hardware request becomes an assigned asset, and a licence renewal appears in the same finance records as the rest of the estate.

What an IT team gets

- **Agents that report, not guess.** Identity, OS, disk encryption, firewall, platform security, accounts, network, updates, MDM, backup and EDR checked every fifteen minutes to daily, with installed software and interfaces.
- **Enrolment under control.** Activation keys shown once with expiry, enrolment cap and IP and platform allow lists; a per-device key issued and hashed; every attempt recorded.
- **Posture as a score.** Policies per profile with rules over 191 parameters, five severities and remediation text, a weighted score and findings to acknowledge, waive or resolve.
- **Licences that add up.** Quantity, used and available per licence, Microsoft 365 licence and user sync, hypervisor licences with near-limit and true-up cost, compliance states.
- **Money on the record.** Purchase, PO, invoice, cost centre, depreciation by four methods with preview and bulk, book value, warranty and support.
- **Disposal with evidence.** Disposition orders, grades, routes, wipe method and result per drive, certificates, shipments with seal and GPS, and recovery against cost.
- **A service desk that knows the asset.** Tickets, service requests, problems, changes and releases linked to assets, services, CIs and articles, with SLA targets and a catalogue storefront.
- **Knowledge the customer can read.** Internal and public knowledge bases, a branded support portal with a ticket form builder and email that threads into tickets.

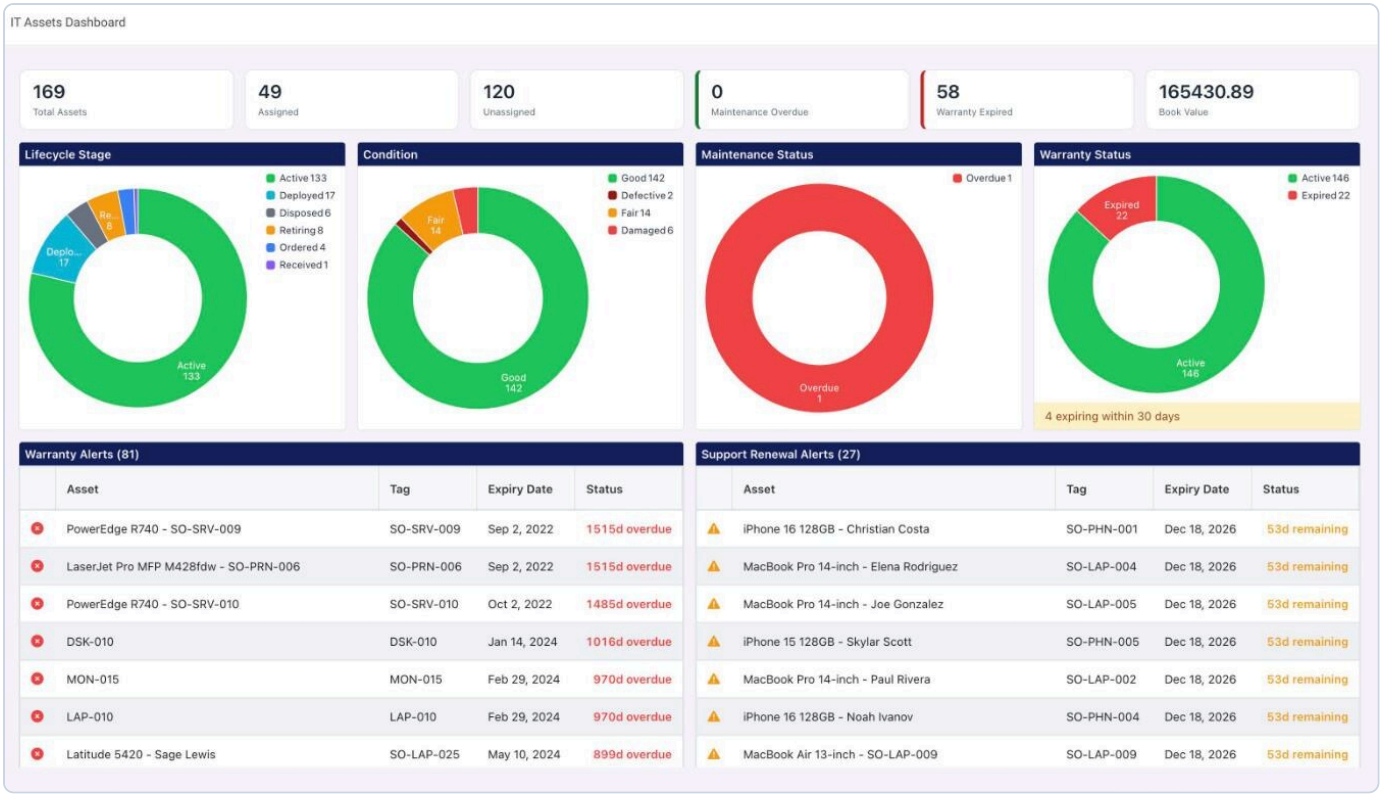

FIGURE 1. THE IT ASSETS DASHBOARD: TOTALS, LIFECYCLE STAGE, CONDITION, MAINTENANCE AND WARRANTY STATUS, WITH WARRANTY AND SUPPORT RENEWAL ALERTS LISTED BY ASSET

Agents, enrolment and posture

The agents are single binaries built from the standard Python library for macOS, Linux and Windows. They run 40, 45 and 40 checks respectively: identity (serial, UUID, hostname, model, physical or virtual), OS version and build, disk encryption (FileVault, BitLocker, LUKS), firewall, platform security (SIP, Gatekeeper, XProtect, sealed volume, Find My and Activation Lock; TPM, Secure Boot, Device Guard, LSA, AppLocker, SmartScreen, Defender, domain or Entra join, Hello, LAPS; SELinux or AppArmor, kernel lockdown, KASLR, IMA, dm-verity, auditd, fail2ban), accounts and access (password policy, screen lock, auto-login, guest and root, administrators), network (VPN, Wi-Fi, proxy, SSH, RDP, SMB, ARD), updates, MDM, backup and EDR, plus installed software and network interfaces.

A scheduler (launchd, systemd timer or Task Scheduler as SYSTEM) runs every five minutes: heartbeat every five, fast checks every fifteen, medium hourly, slow (interfaces) every six hours and full (software) daily; Request check-in forces a full run. Check-ins upsert by key, flag rows no longer reported as removed rather than deleting them, touch only agent-sourced rows and are audited. Intune sync by device id or serial fills the compliance fields.

Enrolment. An activation key (prefix dfak_, stored as a SHA-256 hash, shown once) carries active, expiry, enrolment cap and IP and platform allow lists. Enrolling finds or creates the asset and its profile and issues a per-device key (dfdk_, 32 random bytes, hashed). Key actions are New, Reveal once, Rotate, Disable, Enable and Get Installer with the macOS, Windows and Linux commands.

Posture engine. A policy applies per profile or as the tenant default. Rules use twelve operators over 191 parameter keys in ten categories with five severities, remediation text and a URL. Findings are open, acknowledged, waived or resolved; the weighted score (default weight 10, pass mark 80) gives compliant, partial, non-compliant or unknown, evaluated on every check-in and on re-evaluate.

Vulnerabilities. A daily corpus from the NVD and CISA KEV is matched to software installs linked to catalogue entries with a CPE, producing one vulnerability per asset and CVE with severity, CVSS, KEV flag, fixed version and triage, with non-matching items flipped to fixed. Software is mapped to its CPE by hand.

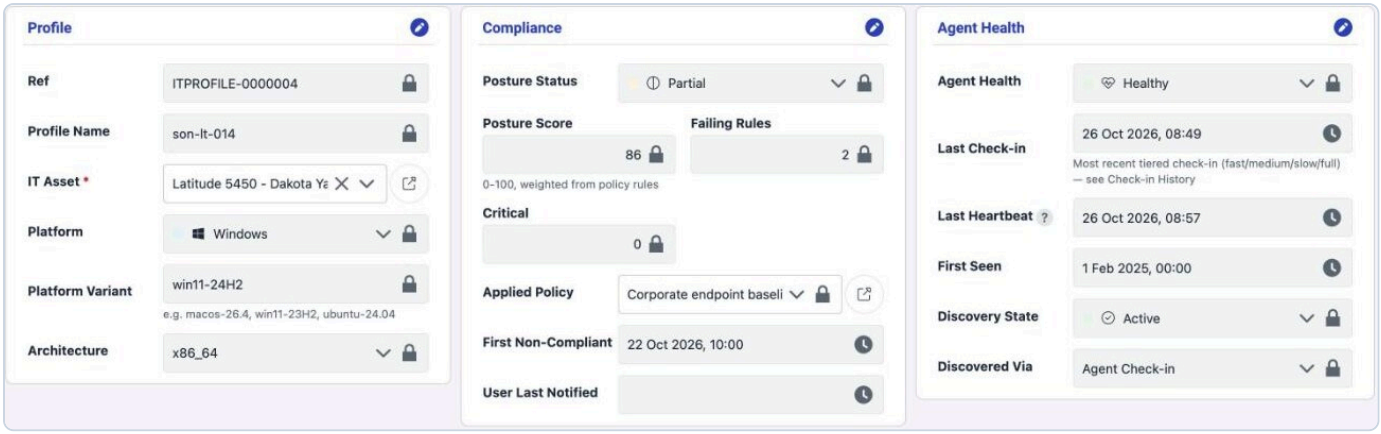

FIGURE 2. AN ASSET PROFILE: PLATFORM AND ARCHITECTURE, THE POSTURE STATUS AND WEIGHTED SCORE WITH FAILING RULES, THE APPLIED POLICY, AND AGENT HEALTH WITH LAST CHECK-IN AND HEARTBEAT

Software, licences, money and disposal

Software records carry a licence model, one of nine metrics, lifecycle dates and a CPE. Licences hold quantity, used, available or unlimited, a compliance state (compliant, over-deployed, under-utilised below 50 per cent, or review), cost and renewal. Microsoft 365 licences and users sync in; hypervisor licences (vSphere, vSAN, NSX, Hyper-V, Windows Server, Proxmox, RHV, Nutanix) flag near-limit above 80 per cent and show the true-up cost.

Cost fields cover purchase, PO, invoice, cost centre, budget code and GL, with depreciation by straight line, declining, double declining or sum of years, a preview, bulk depreciation and a book value KPI, plus warranty and support fields. Lifecycle actions are Assign, Return with condition, Maintenance, Retire, Depreciate and Asset Tag QR PDF, with bulk assign, retire and depreciate; 34 shipped automations fire on record update for warranty and renewal at thirty days, overdue maintenance, retirement at sixty days and history on status, assignment, location, department, support and condition changes.

IP address management and virtualisation. A subnet tree with utilisation meters, VLANs and conflict detection (one address on two MACs, one MAC on two addresses); hosts, VMs and datastore tiles for the virtual estate.

Disposal. Disposition orders by type (refresh cycle, office closure, data centre decommission, end-of-life batch, ad hoc) with costs, recovery and net, landfill diverted and CO2 avoided; lines with grade A to D, seven disposition routes, wipe method, standard (Clear, Purge, Destroy) and result, and resale; per-drive wipe records; certificates for data destruction, recycling, WEEE, duty of care and waste transfer; shipments with seal, GPS, cleared personnel, ADR and waste transfer note; material compositions.

Dashboard. KPIs, breakdowns, warranty and support renewals within ninety days, licence compliance, a posture donut and the devices needing attention.

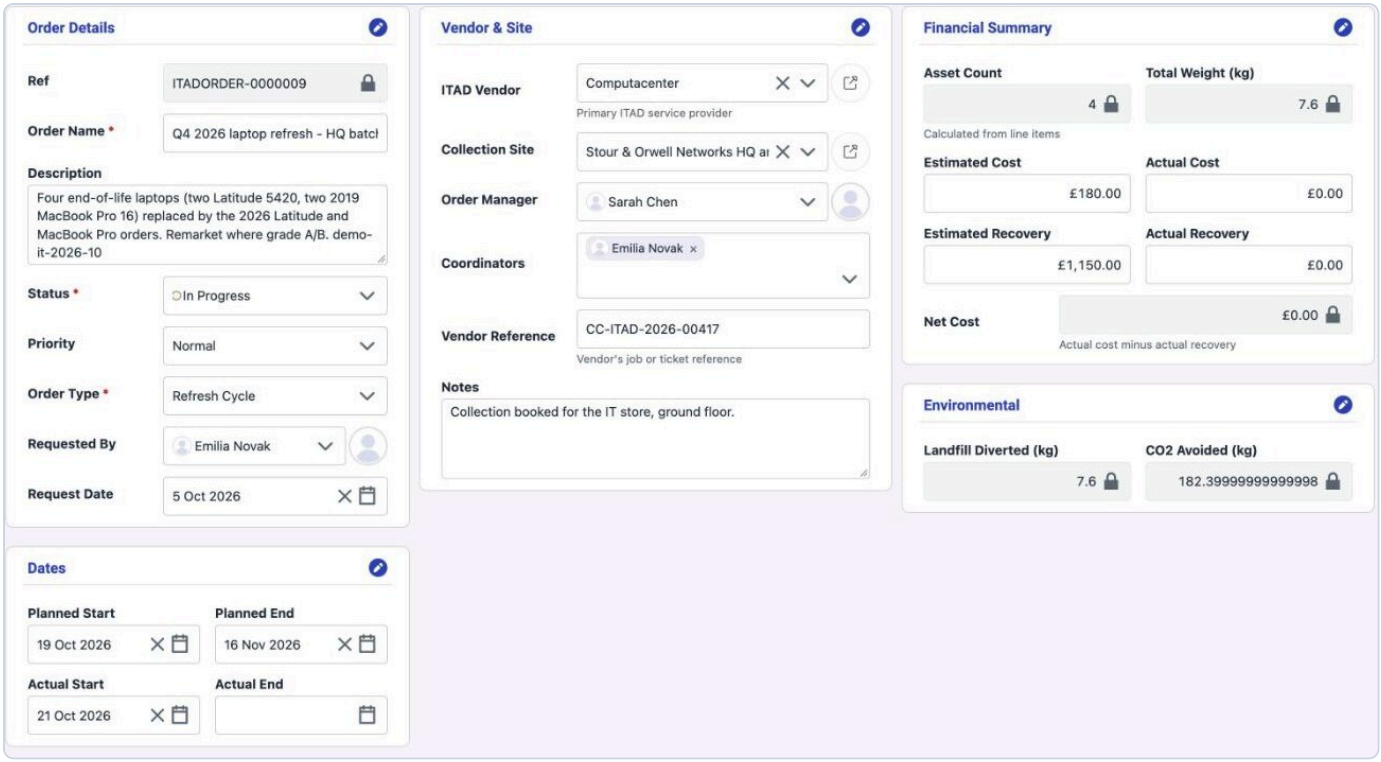

FIGURE 3. A DISPOSITION ORDER: THE ITAD VENDOR, COLLECTION SITE AND MANAGER, PLANNED AND ACTUAL DATES, ESTIMATED AND ACTUAL COST AND RECOVERY, AND LANDFILL DIVERTED AND CO2 AVOIDED

The service desk

Tickets are incidents, service requests, problems, change requests or new user requests, with seven statuses, four priorities, impact and urgency, eight categories, assignment, groups and escalation levels. A ticket links to an asset, service, problem, change, CI, knowledge article, catalogue item or support agreement, takes a satisfaction rating and time entries with work type and billable flag. SIEM alerts raise IT tickets for non-network kit, and analysts raise tickets from events with the asset linked by hostname. SLA definitions give P1 to P4 response and resolution minutes, support hours and a warning percentage; the calculation stamps targets and a status of within, at risk (80 per cent) or breached when run from the toolbar.

Service catalogue. Items with delivery time, cost, approval required, approver source (line manager, service owner or named user), owner, support group and custom fields. The storefront basket creates requests and approvals; approvers approve or reject from My approvals; a fulfilled hardware request becomes an assigned asset.

Problems, changes and releases. Problems carry root cause, category, workaround and its effectiveness, linked incidents and Create known error. Changes are standard, normal, emergency or major with nine statuses, implementation, rollback and test plans and a post-implementation review; submission requires a plan, approval takes notes, a five by four risk matrix scores critical at 15, high at 10 and medium at 5, and conflicts flag the same asset or CI as high and the same window as medium. Releases are submitted, approved and deployed with release notes and their changes.

Knowledge base. Articles of type how-to, troubleshooting, FAQ, policy, procedure or reference move through draft, in review, published and archived with author, reviewer, review dates and version text; ratings 1 to 5 and helpful yes or no on published articles; view counts; a browser by category with search; review-due and published automations; and a panel of the tickets that reference each article.

Support portal. Served per tenant at its own portal address: home, knowledge lists, articles with ratings, a ticket form built in a configurable builder, privacy and terms; a public knowledge base separate from the internal one; per-portal switches for knowledge, ticket submission and user accounts; branding; several portals per tenant; and inbound support email that creates or threads tickets by reference. A customer support

dashboard shows totals, open, critical, unassigned, response, SLA compliance, resolution, client breakdown and breaches.

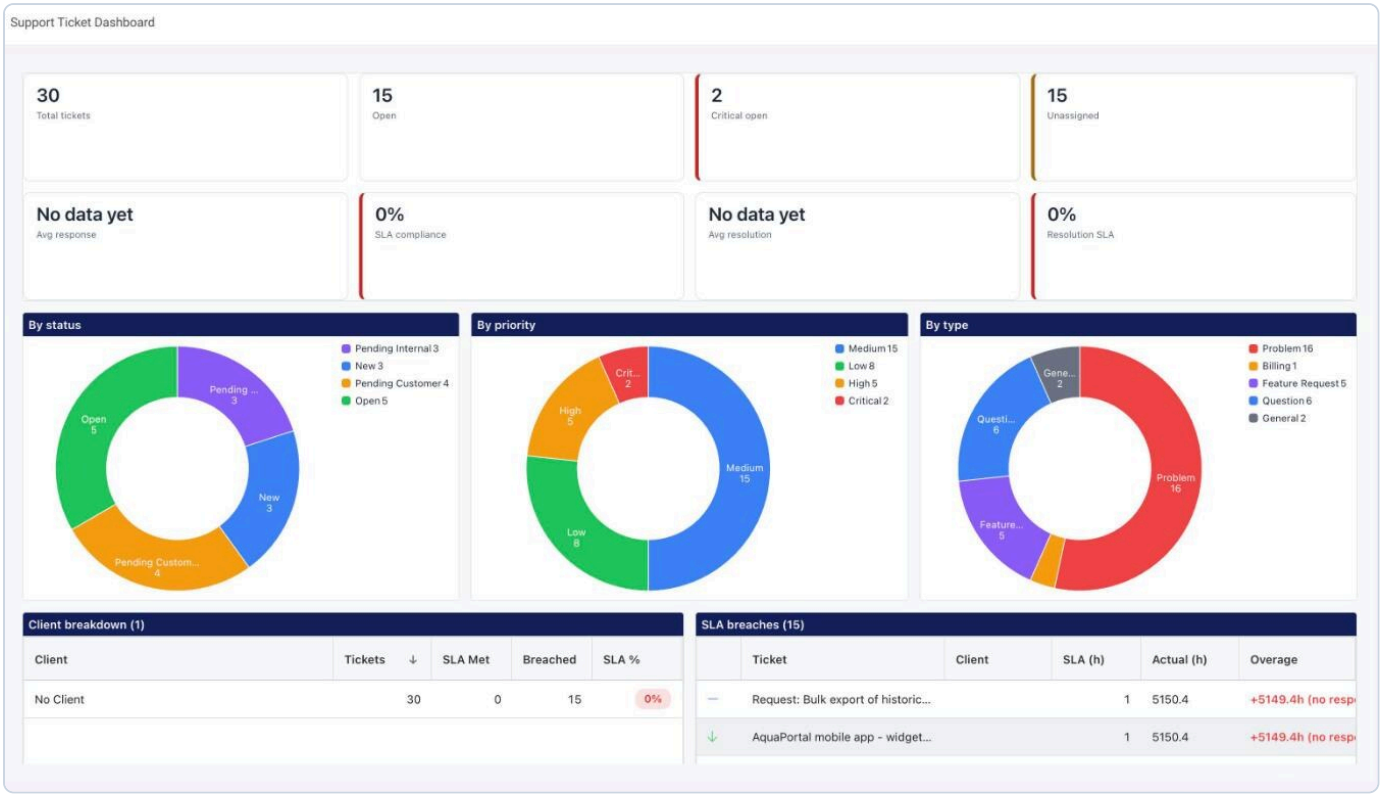

FIGURE 4. THE SUPPORT TICKET DASHBOARD: OPEN, CRITICAL AND UNASSIGNED COUNTS, TICKETS BY STATUS, PRIORITY AND TYPE, AND SLA BREACHES BY TICKET

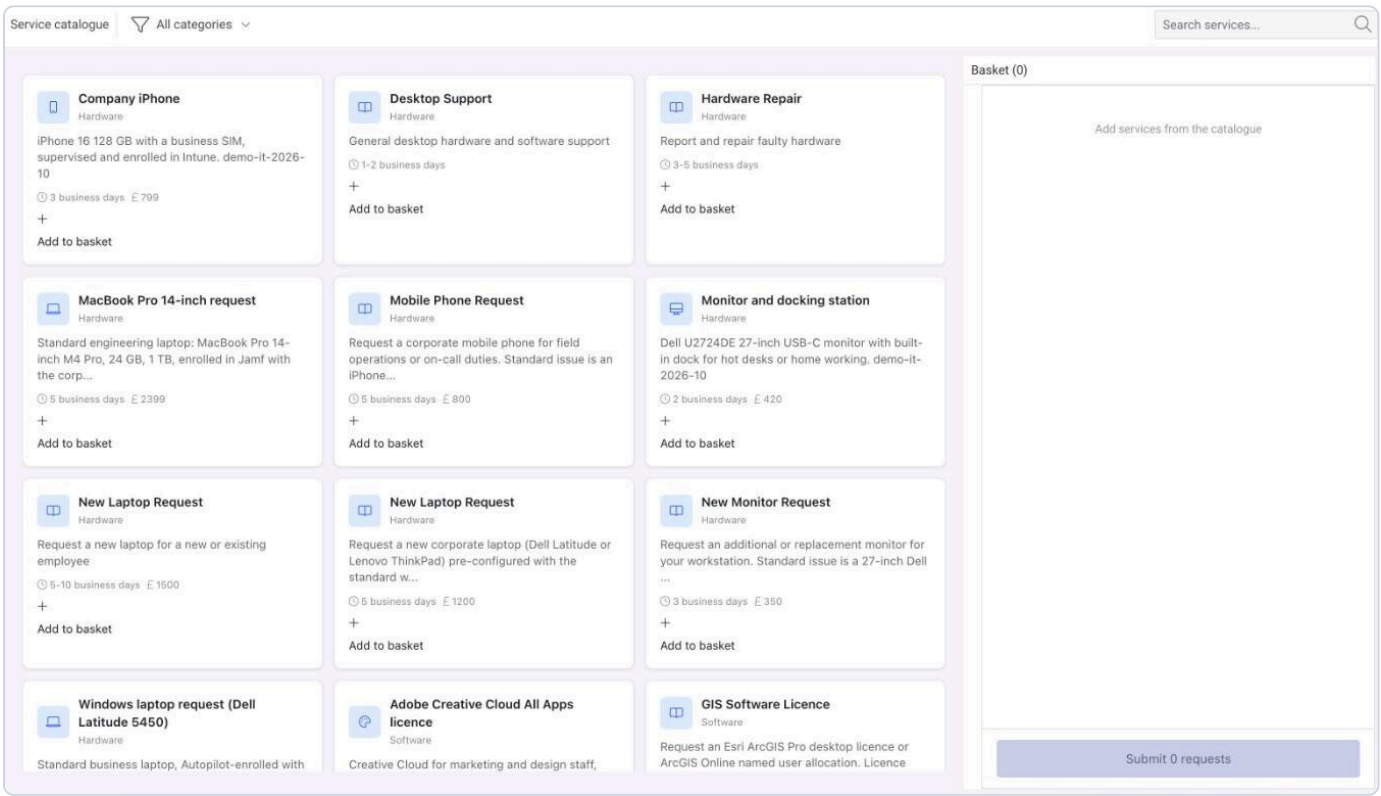

FIGURE 5. THE SERVICE CATALOGUE STOREFRONT: ITEMS WITH DELIVERY TIME AND COST, AND A BASKET THAT BECOMES REQUESTS AND APPROVALS

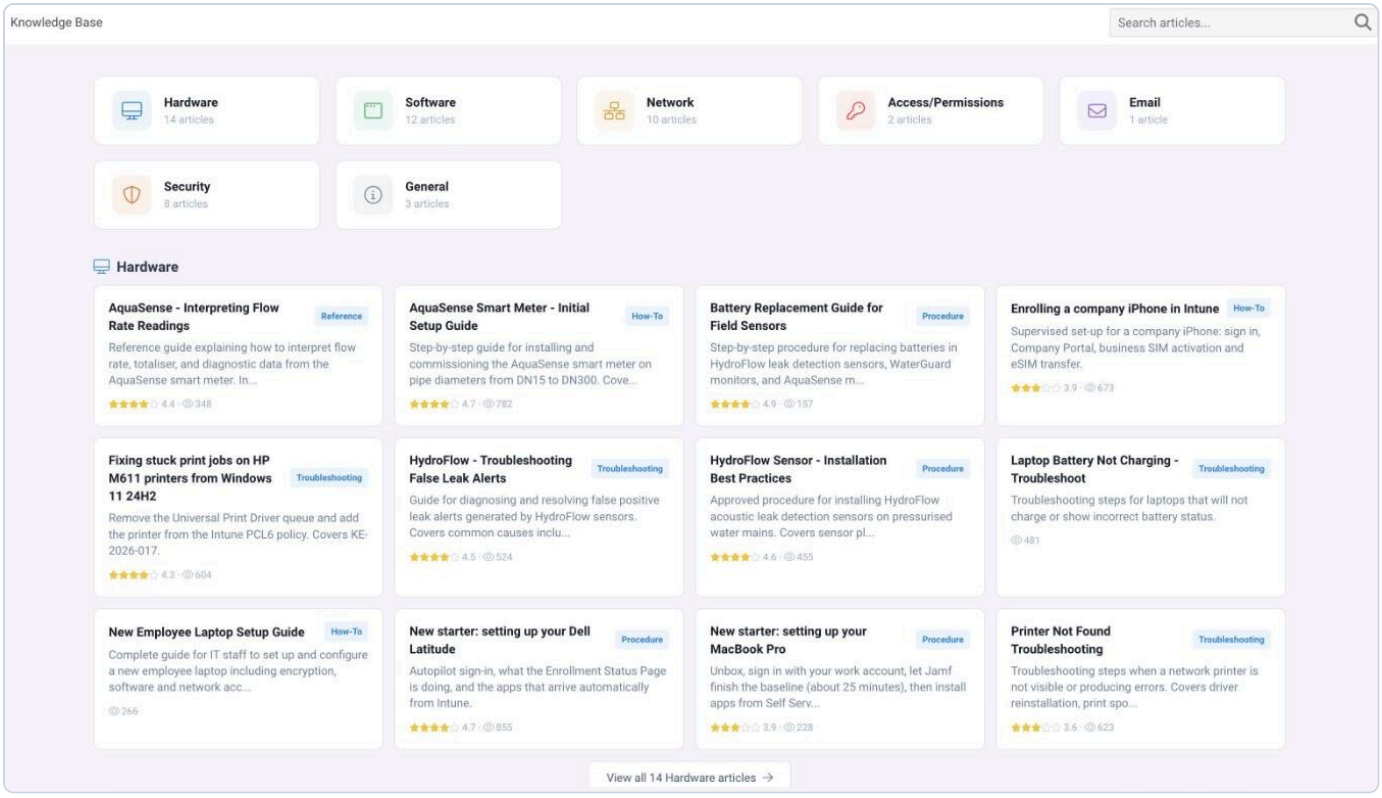

FIGURE 6. THE KNOWLEDGE BASE BROWSER: ARTICLES BY CATEGORY AND TYPE WITH RATINGS AND VIEW COUNTS

Summary of specifications

Item	Detail
Agents	macOS, Linux, Windows; 40, 45 and 40 checks; standard-library Python in one binary; scheduler every 5 min; heartbeat 5 min, fast 15 min, medium hourly, slow 6 h, full daily; Request check-in
Enrolment	Activation keys dfak_ (SHA-256, shown once, active, expiry, cap, IP and platform allow lists); device keys dfdk_ (32 random bytes, hashed); New, Reveal once, Rotate, Disable, Enable, Get Installer; every attempt recorded
Reconciliation	Upsert by key; removed and uninstalled flagged, not deleted; only agent-sourced rows touched; every check-in audited; Intune sync by device id or serial
Posture	Policies per profile or tenant default; 12 operators over 191 parameters; 10 categories; 5 severities; remediation text and URL; findings open, acknowledged, waived, resolved; weighted score (weight 10, pass 80); compliant, partial, non-compliant, unknown
Software and licences	Licence model, 9 metrics, lifecycle, CPE; quantity, used, available, unlimited; compliant, over-deployed, under-utilised (below 50 per cent), review; Microsoft 365 sync; hypervisor licences with near-limit above 80 per cent and true-up
Cost and lifecycle	Purchase, PO, invoice, cost centre, budget code, GL; depreciation straight line, declining, double declining, sum of years with preview and bulk; book value; warranty and support; Assign, Return, Maintenance, Retire, Depreciate, Asset Tag QR; 34 automations
CVE	Daily NVD 2.0 and CISA KEV; installs linked to software with CPE; severity, CVSS, KEV, fixed version, triage; non-matching flipped to fixed; CPE mapping by hand

Item	Detail
Disposal	Order types refresh, closure, DC decommission, EOL batch, ad hoc; grades A to D; 7 routes; wipe Clear, Purge, Destroy with result; per-drive records; 5 certificate types; shipments with seal, GPS, personnel, ADR, waste transfer note; landfill diverted and CO2 avoided
Tickets and SLA	5 types, 7 statuses, 4 priorities, impact and urgency, 8 categories; links to asset, service, problem, change, CI, article, catalogue item, agreement; time entries; P1 to P4 targets; within, at risk (80 per cent), breached on demand
Catalogue, problems, changes, releases	Items with delivery time, cost, approval and approver source; storefront basket; problems with known errors; changes standard, normal, emergency, major with 9 statuses, plans, PIR, 5 x 4 risk matrix, conflicts; releases with notes
Knowledge and portal	6 article types; draft, in review, published, archived; ratings and helpful votes; views; browser with search; public knowledge base; portal with form builder, branding, several per tenant; inbound email threading; ticket submissions rate limited to 5 per minute per address

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