

Themelio DDI Platform

Unified DNS, DHCP & IP Address Management — self-hosted, secure, and owned by you

PRODUCT OVERVIEW

Themelio is a modern DDI (DNS, DHCP and IP Address Management) software platform that delivers reliable, secure and centralized network services for enterprise and growing-business environments. By integrating all three core services into a single management platform, Themelio simplifies administration, improves operational efficiency, and removes the complexity of managing IP infrastructure across the organization.

From one console, administrators allocate and track IP address resources, manage DNS zones and records, and run highly available DHCP services — with centralized visibility, automation and consistent policy enforcement. Every change is validated before it is applied and rolled back automatically on failure, minimizing configuration errors and downtime.

Themelio runs entirely inside your own network, with no cloud dependency and no call-home. It is licensed perpetually and scales by adding nodes — from a single standalone appliance for a branch or campus, to a highly available grid spanning multiple sites and data centers.

HIGHLIGHTS

- ✓ **One platform** — DNS, DHCP and IPAM in a single console and source of truth
- ✓ **Benchmarked performance** — up to 110,000 DNS QPS and 1,000 DHCP leases/s per node
- ✓ **Change safety** — validate-before-apply with automatic rollback and full audit
- ✓ **High availability** — active-standby management and DHCP HA, failover under 60 s
- ✓ **Secure & sovereign** — 100% on-premise, no data egress, hardened by default
- ✓ **Automation-ready** — RESTful API and infrastructure-as-code
- ✓ **Owned, not rented** — perpetual licensing, node-based, no per-query tax

110k

DNS queries/sec — single node
(Large, benchmarked)

1,000/s

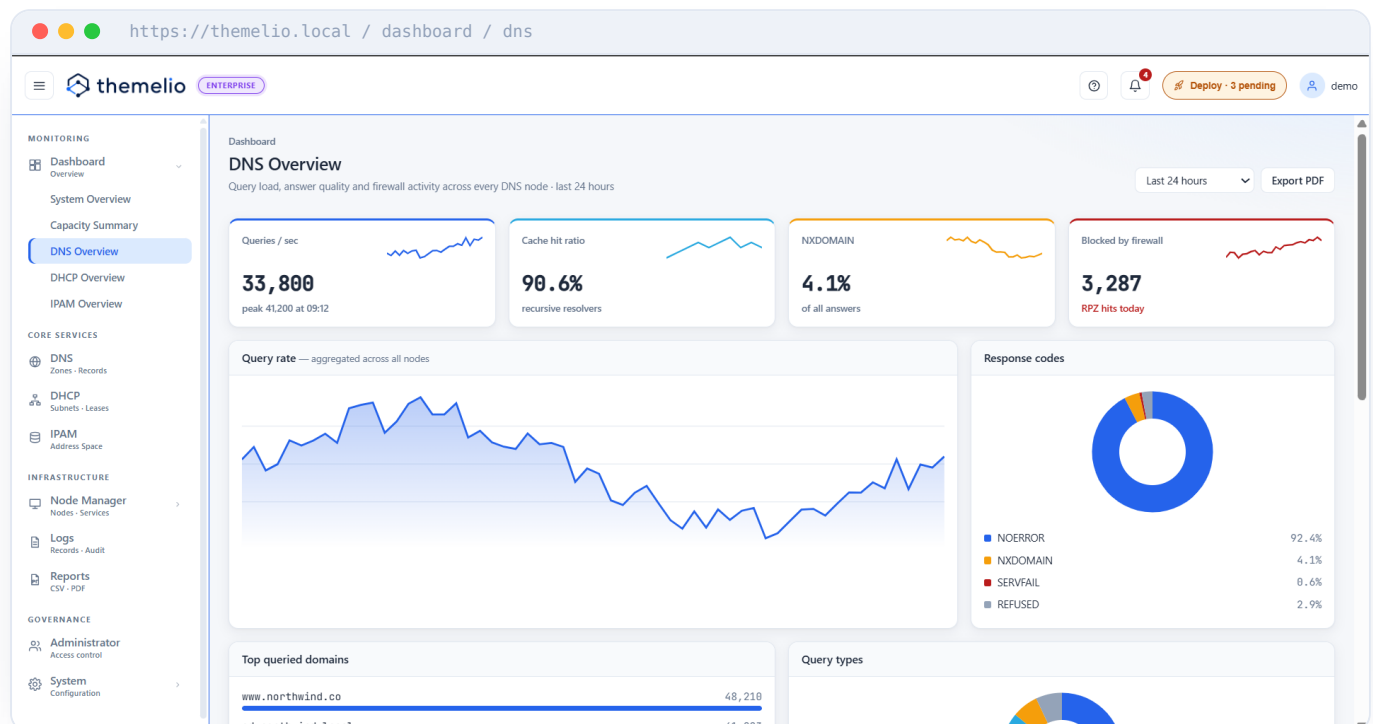
DHCP leases/sec — single node
(Large, benchmarked)

<60s

Automatic HA failover target

100%

On-premise — no cloud, no call-home



Themelio management console — DNS overview: query load, cache-hit ratio, firewall activity and response-code mix across every node.

01 Core Services — Features & Functions

Themelio provides a complete, enterprise-grade DDI feature set built for reliability and interoperability, wrapped in an operator-friendly management plane that makes day-to-day changes fast, safe and fully audited.

DNS SERVICES

Authoritative and recursive DNS with the controls enterprises require for security, segmentation and interoperability.

- **Authoritative & recursive** resolution, with conditional forwarding and per-view answers.
- **DNS Views & Client Groups** — true split-horizon: different answers by source network.
- **All common record types** — A, AAAA, CNAME, MX, TXT, NS, SOA, SRV, PTR, CAA and more.
- **Automatic reverse zones** — PTR records created and kept in sync with A/AAAA.
- **DNSSEC** — automatic zone signing, validation and key rollover.
- **Response Rate Limiting & ACLs** to blunt amplification and abuse.
- **Secure zone transfer** (AXFR/IXFR) with TSIG and NOTIFY for interoperability.
- **RPZ DNS firewall** — block malicious domains via a signed threat feed.

DHCP SERVICES

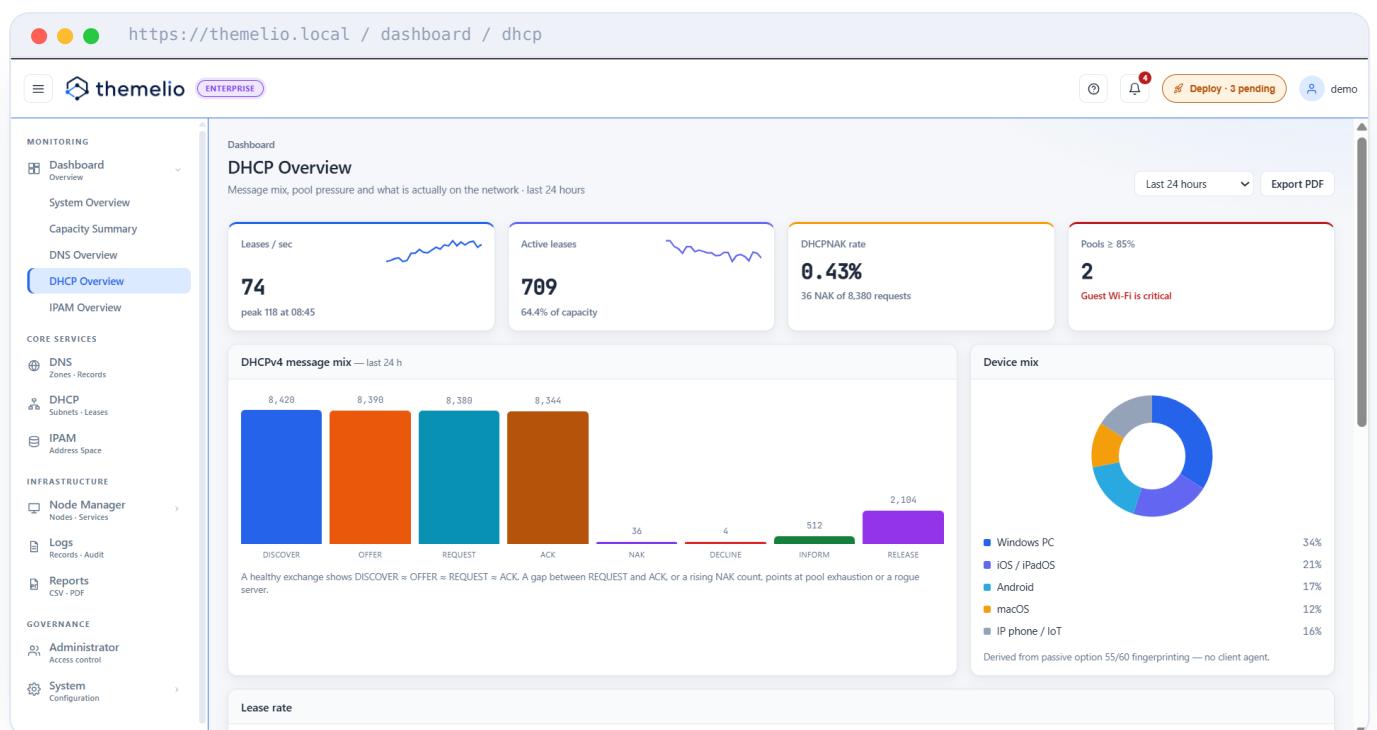
High-throughput, highly available address assignment with full option control and complete lease accounting.

- **DHCPv4 & DHCPv6** — scopes, pools and prefix delegation.
- **Reservations** bound to MAC or DUID for fixed addressing.
- **Full option management** — including PXE (66/67), option 82, vendor and custom options.
- **Client classification** — deliver different options by vendor class or MAC prefix.
- **High-availability pairs** — load-balancing or hot-standby with in-service lease sync.
- **Lease management & history** — real-time view plus a full audit trail of IP ↔ MAC over time.
- **Automatic DDNS** — every lease registers its A/PTR record with no extra steps.
- **Utilization alerts** — proactive warnings as pools approach exhaustion.

IP ADDRESS MANAGEMENT (IPAM)

A living map of the entire address space — one source of truth that ends spreadsheets and reconciliation.

- **Address-space hierarchy** — supernet → subnet → IP, with VRF / overlapping support.
- **Discovery** via ping sweep, ARP and SNMP, with automatic **conflict detection**.
- **Unified view** — every IP linked to its DNS record, DHCP lease, MAC and owner.
- **Extensible attributes** — tag by department, building, owner or budget.
- **Maker-checker reservation** — request → approve → auto-provision DNS + DHCP.
- **Endpoint intelligence** — device type identified from fingerprints and MAC OUI.



Themelio management console — DHCP overview: lease rate, DHCPv4 message mix, pool pressure and device mix, live across the estate.

CENTRALIZED MANAGEMENT & AUTOMATION

- **Single console** manages every node and every site from one login.
- **Staged change & Deploy** — validate before apply, automatic rollback on failure.
- **Role-based access control** with granular resource.action permissions and scoping.
- **Separation of duties** — read-only Auditor role and maker-checker deployment.
- **Full audit trail** — who changed what, when, old value → new value.
- **RESTful API & infrastructure-as-code** for automation of routine tasks.
- **One-click rolling upgrade** and scheduled encrypted backup & restore.

HIGH AVAILABILITY & RESILIENCE

- **DNS** — primary/secondary replication across sites via standard zone transfer.
- **DHCP** — high-availability pairs, load-balancing or hot-standby.
- **Management** — active-standby with a virtual IP and database replication; automatic failover under 60 seconds.
- **Data plane keeps serving** — DNS and DHCP continue from the last applied configuration even if management is offline.
- **Disaster recovery** — a warm replica supports cross-site recovery.

MONITORING, REPORTING & ANALYTICS

- **Live dashboards** — query and lease rates, active leases, node health and capacity.
- **DNS analytics** — top talkers, top queried domains, query-type mix and hourly volume.

SECURITY & HARDENING

- **Encryption everywhere** — TLS 1.2+ on every interface, mutual TLS between components, AES-256 for secrets at rest.
- **Strong authentication** — local accounts, MFA (TOTP) and LDAP / Active Directory integration.
- **Hardened by default** — recursion locked down, transfers denied unless permitted, rate limiting on, version hidden.
- **No call-home** — the runtime makes no outbound internet calls; egress is verified each release.
- **Offline licensing** — activation is entirely local against a displayed System ID.

INTEGRATION & INTEROPERABILITY

- **Microsoft DNS & DHCP sync** — view and manage Windows zones, scopes and leases in one console.
- **Standards-based interop** — act as primary or secondary to your existing DNS, including Microsoft DNS.
- **SIEM export** — Splunk, IBM QRadar, Microsoft Sentinel, ArcSight and Elastic (JSON / CEF / LEEF).
- **Notifications** — email, webhook, LINE and Telegram for node, deploy and capacity events.
- **Migration tools** — import existing zones and scopes with preview before commit.

WHY TEAMS STANDARDIZE ON THEMELIO

Simplicity at scale. One platform and one source of truth replace three tools and a pile of spreadsheets — a lean team runs the whole estate with confidence.

Safe by construction. Validation, rollback and audit are built into every change, so routine edits never become outages or audit findings.

Sovereign & predictable. Data stays in your perimeter and cost stays flat — perpetual licensing with no per-query tax and no cloud lock-in.

DEPLOYED ACROSS THE ENTERPRISE

Themelio suits any organization that must keep its core network services reliable, auditable and under its own control — from a single branch to a multi-site estate.

Government & public sector

Sovereign and on-prem, with DNSSEC for signed-domain mandates and long-term log retention for audit.

Banking & finance

Strict change control, separation of duties and a complete audit trail for every DNS and DHCP change.

Healthcare

High availability for always-on services, plus endpoint visibility across clinical and IoT devices.

Industry & OT / manufacturing

Runs at the edge and in air-gapped plants — one standalone node per site, no cloud dependency.

Service providers

Multi-tenant management and node-based scaling for teams operating DDI for many customers.

Multi-site enterprise

One management plane governs distributed DNS and DHCP nodes across campuses and data centers.

03 Architecture, Deployment & Performance

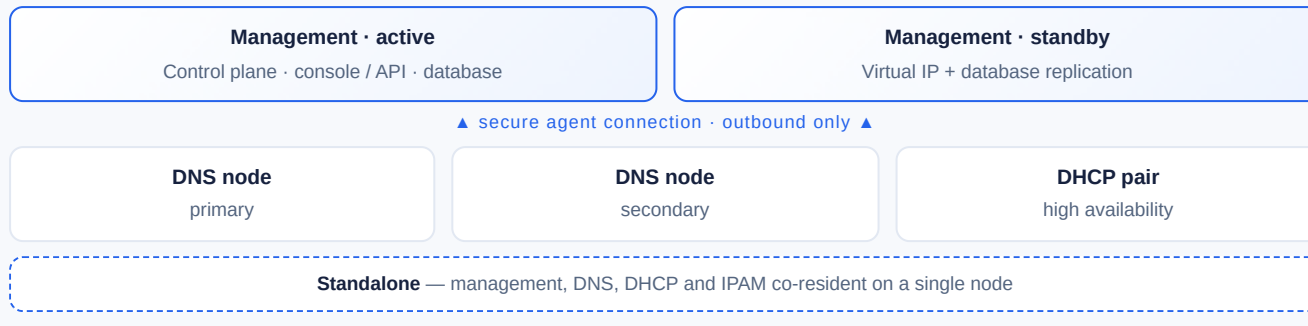
ARCHITECTURE

- **Separation of control and data plane** — the management layer is the source of truth; DNS and DHCP keep serving from the last applied configuration even if management is offline.
- **Outbound-only nodes** — each node opens a secure connection to the manager, so no inbound ports are exposed on the data plane; ideal for tightly controlled networks.
- **Self-contained stack** — deploys as a compact set of services on a standard Linux server, air-gap ready, with no cloud dependency.
- **Offline activation** — licensing is entirely local; no internet connection is ever required.

DEPLOYMENT OPTIONS

- ✓ **Standalone** — all services on a single node for a site, branch or edge.
- ✓ **Standard** — dedicated DNS and DHCP nodes with a managing node.
- ✓ **Enterprise grid** — highly available management with distributed nodes across sites.

REFERENCE ARCHITECTURE — ONE MANAGEMENT PLANE, MANY NODES



PERFORMANCE & SIZING — STANDALONE (BENCHMARKED)

The figures below are **measured results** from sustained load testing of a **single standalone node** running DNS, DHCP, IPAM and management together on the stated profile. Choose a tier by peak query and lease rates; scale beyond one node with a Standard or Enterprise grid.

TIER	VCPU	RAM	SYSTEM DISK*	NIC	DNS THROUGHPUT	DHCP THROUGHPUT	TYPICAL USE
Small	4	8 GB	100 GB SSD	1 GbE	30,000 QPS	500 leases/s	Branch / small campus
Medium	8	16 GB	200 GB SSD	1 GbE	65,000 QPS	750 leases/s	Campus / department
Large	16	32 GB	400 GB SSD	10 GbE	110,000 QPS	1,000 leases/s	Data center / core site

* **System disk excludes log storage.** The disk sizes above cover the operating system, application and configuration database only. Query and lease logging grows with traffic and retention: provision additional dedicated storage sized to your retention policy (typically 90–730 days), or forward logs to a SIEM to keep node storage lean.

TEST METHODOLOGY

- **Single standalone node** — all roles co-resident on one virtual machine per tier.
- **Sustained load** — measured with standardized DNS and DHCP load-testing tools until steady-state throughput.
- **Representative mix** — authoritative and cached DNS queries; full DHCP DORA lease cycles.

SCALING BEYOND A SINGLE NODE

- **Scale out, not up** — add dedicated DNS and DHCP nodes to exceed single-node figures.
- **Distribute DNS** — multiple authoritative/recursive nodes behind a shared address.
- **One management plane** — a single console governs the entire grid, to multi-site scale.

04 Technical Specifications & Capacity

DNS	Authoritative & recursive; Views / split-horizon; DNSSEC; RRL; ACLs; AXFR/IXFR + TSIG; NOTIFY; RPZ DNS firewall
DHCP	DHCPv4 & DHCPv6; prefix delegation; reservations (MAC/DUID); PXE, option 82, vendor/custom; client classification; HA
IPAM	Hierarchical address space; VRF / overlapping; discovery (ping, ARP, SNMP); conflict detection; maker-checker provisioning
Automation	RESTful API; scoped API keys; infrastructure-as-code integration
Access	RBAC; MFA (TOTP); LDAP / Active Directory; read-only Auditor; maker-checker
Deployment	Standard Linux server (VM or bare metal); VMware / Proxmox / Hyper-V; fully offline / air-gap capable

LOG-STORAGE SIZING GUIDE

Plan dedicated log storage separately from the system disk. Daily archives compress ~10x; figures are pre-compression.

DNS LOAD	LOG / DAY	90-DAY	365-DAY
~30,000 QPS	~30–55 GB	~0.4–0.7 TB	~1.3–2.4 TB
~65,000 QPS	~65–120 GB	~0.8–1.4 TB	~3–5 TB
~110,000 QPS	~105–200 GB	~1.2–2.2 TB	~5–8.5 TB

Forward logs to a SIEM to keep on-node storage lean.

05 Editions & Compliance

CAPABILITY	BASIC	PRO	ENTERPRISE
DNS · DHCP · IPAM core	✓	✓	✓
Backup & restore · endpoint intelligence	✓	✓	✓
SIEM / Syslog export	✓	✓	✓
Management HA + DHCP HA	—	✓	✓
REST API + infrastructure-as-code	—	✓	✓
Microsoft DNS / DHCP sync	—	✓	✓
Advanced analytics + scheduled reports	—	✓	✓
Security suite (RPZ · DGA · DoH · threat feed)	—	—	✓
Multi-tenant + AI Assistant	—	—	✓
Log retention	90 d	180 d	730 d

COMPLIANCE & STANDARDS

- ✓ **ISO/IEC 27001:2022** — access control, logging, config management, backup, cryptography
- ✓ **PDPA / GDPR** — data stays on-prem; retention, access audit, ROPA templates
- ✓ **DNSSEC** to current standards for signed-domain mandates
- ✓ **IPv6-ready** across DNS, DHCP and IPAM
- ✓ **CIS Benchmarks** — OS and platform hardening guide and self-assessment

06 Ordering & Support

LICENSING MODEL

- **Perpetual** — buy once, own forever; services keep running even if maintenance lapses.
- **Node-based** — sized by node count, independent of edition.
- **Editions** — Basic, Pro and Enterprise unlock feature sets.

MAINTENANCE & ASSURANCE

- **Software updates** and version upgrades throughout the term.
- **Signature packs** — device fingerprints and threat feed (Enterprise).
- **Security advisories** delivered as signed, offline updates.

SUPPORT & SERVICES

- **Support tiers** — Standard, Priority and Premium SLAs.
- **Onboarding** — deployment, sizing and migration assistance.
- **Local team** — English & Thai support and documentation.

See Themelio on your own network.

Start a free 30-day trial with the full core — DNS, DHCP and IPAM — or book a technical demo sized to your topology.

Free 30-day trial
Full core, on your VM

Technical demo
Sized to your topology

Talk to us
Themelio Corp. — Unified DDI