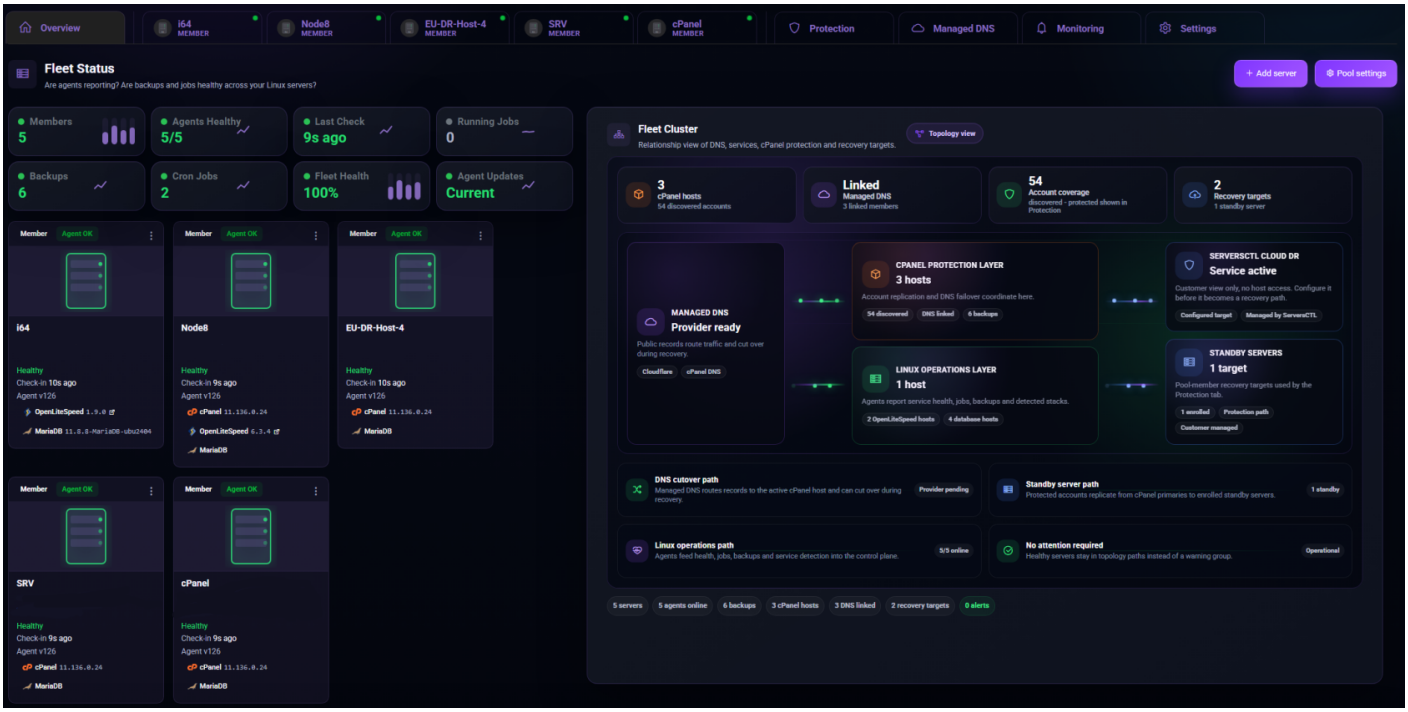
Part 1 - Overview & Concepts

What ServersCTL hosting pools are

ServersCTL (serversctl.com) is the control plane for redundant server infrastructure: enrol Linux VMs with the ServersCTL agent, monitor heartbeats, cut over DNS between peers, run stack backups, and (on the cPanel preset) orchestrate account replication and live WHM transfers.

A server pool is one deployment in your dashboard — a set of members sharing failover DNS and pool-level settings. Members run what you actually install on each host. The dashboard exposes member tabs for **OpenLiteSpeed**, **MariaDB/MySQL**, **Galera**, and **cPanel/WHM**; each tab fills in when the agent detects that stack on that server.

ServersCTL does not host traffic. It moves DNS, queues remote jobs, and calls APIs where configured.



Pool Presets

Server pools are created using a preset template in the UI. This chapter is for the **Generic Linux Server** Preset. For HAProxy Server Pools, see the HAProxy chapter.

What runs on a member (stack compatibility)

Do not assume one VM runs every stack. Common deployments:

Deployment	Typical member stacks	Notes
cPanel / WHM hosting	cPanel tab + MariaDB tab (cPanel-managed MySQL)	Apache/httpd via cPanel — not OpenLiteSpeed
OpenLiteSpeed web farm	OpenLiteSpeed tab only	Standalone OLS
MariaDB / Galera nodes	MariaDB tab + Galera readout	DNS swing ≠ Galera quorum
Mixed pool	Different tabs per member	e.g. two cPanel standbys + one OLS edge — each member's tabs reflect its OS

Core terminology

Term	Meaning
Pool	One ServersCTL Pool.
Member	One enrolled server (hostname, egress IP, enrollment secret)
Active member	Host whose IPv4 receives the pool failover A record.
Stack tab	Member workspace: OpenLiteSpeed, MariaDB, cPanel, etc.
Protected account	cPanel account with a replication job.
Agent	`balctl_heartbeat.py` on each member — heartbeats to `serversctl.com`

Architecture

Clients → DNS (Cloudflare / WHM) → A record → Active member IPv4
↑

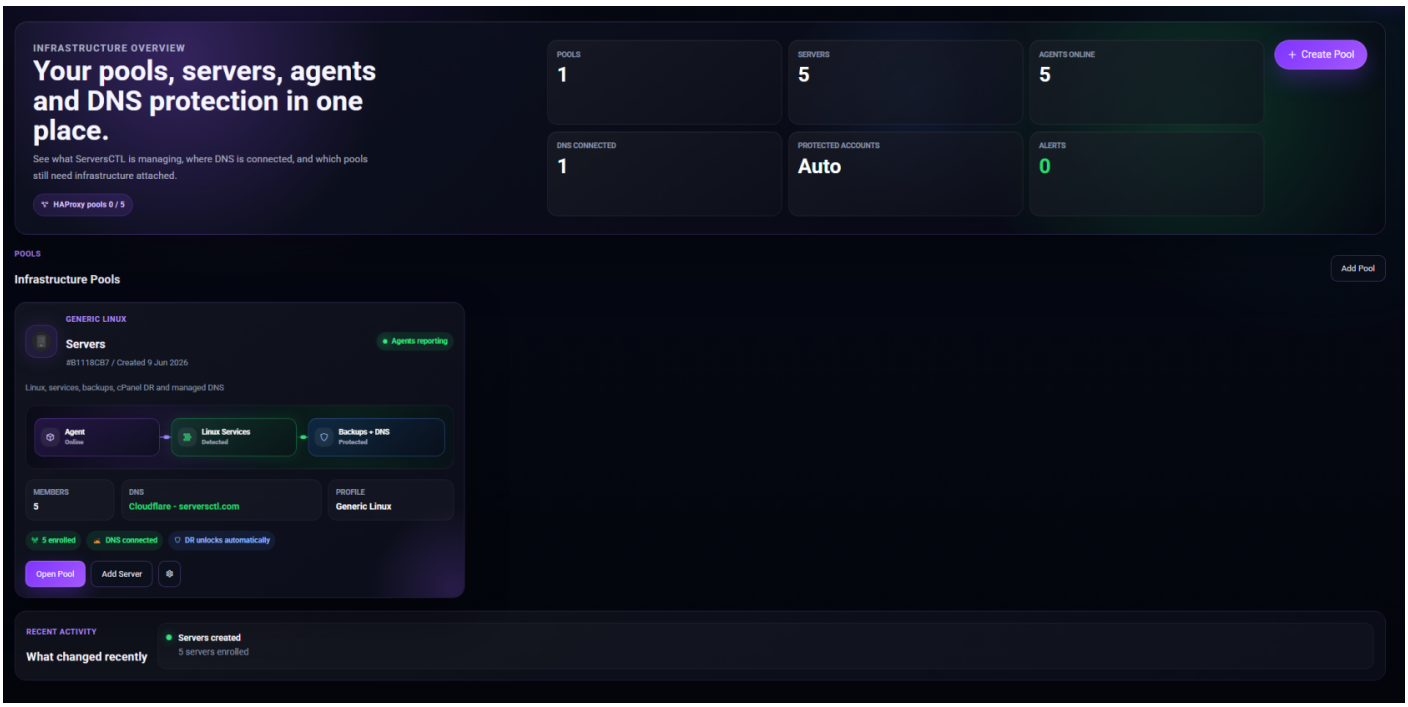
ServersCTL Worker (serversctl.com)
↑
Standby members' ← agent heartbeats (+ WHM replication on cPanel preset)

Failover health: missed heartbeat beyond failover delay (10–120 s). No HAProxy systemd check on hosting presets.

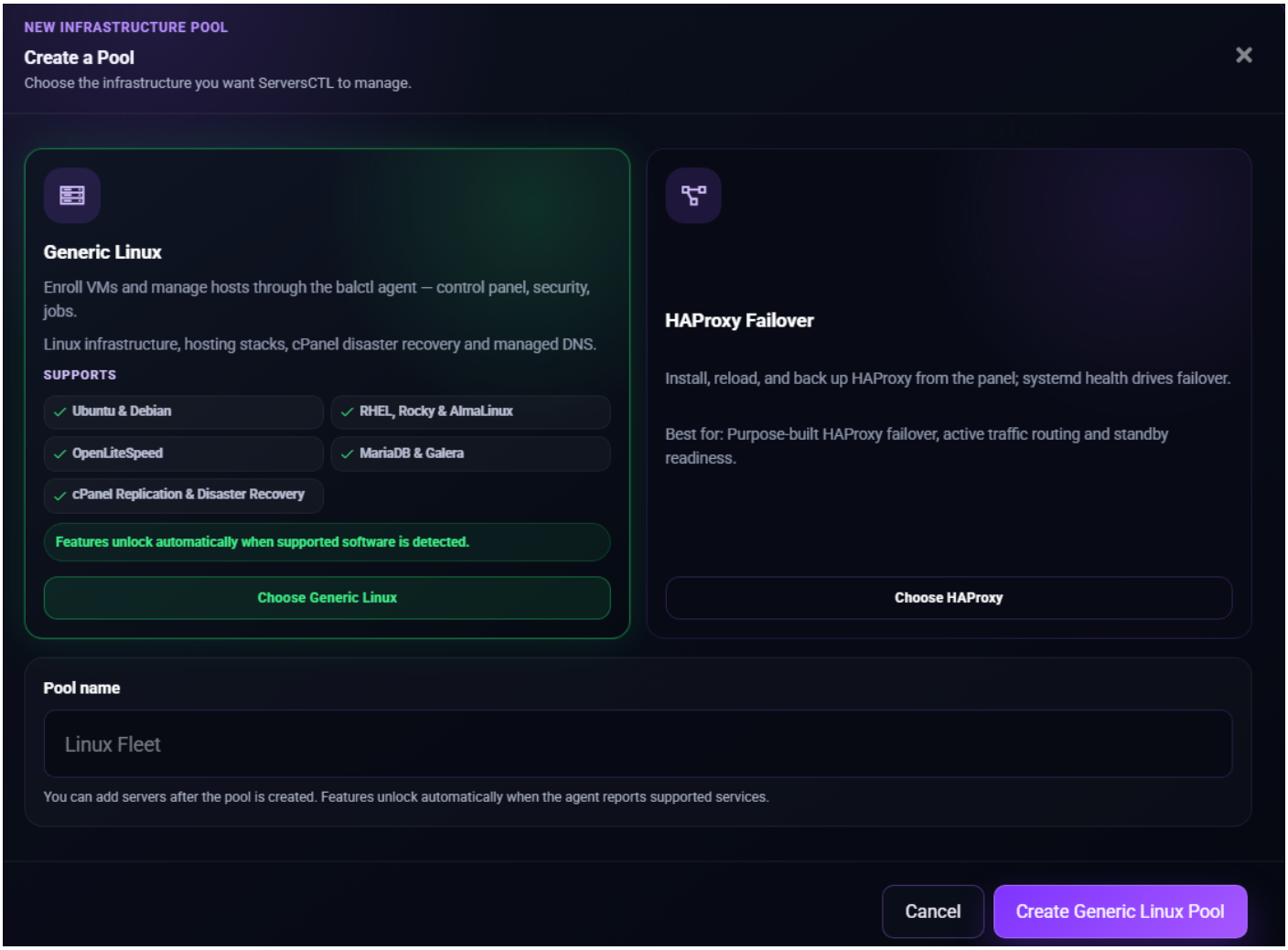
> All Linux Servers should use the Generic Server Preset when adding a pool. Only ever select the HAProxy Preset if HAProxy is installed on your server.

Create a Generic Linux pool

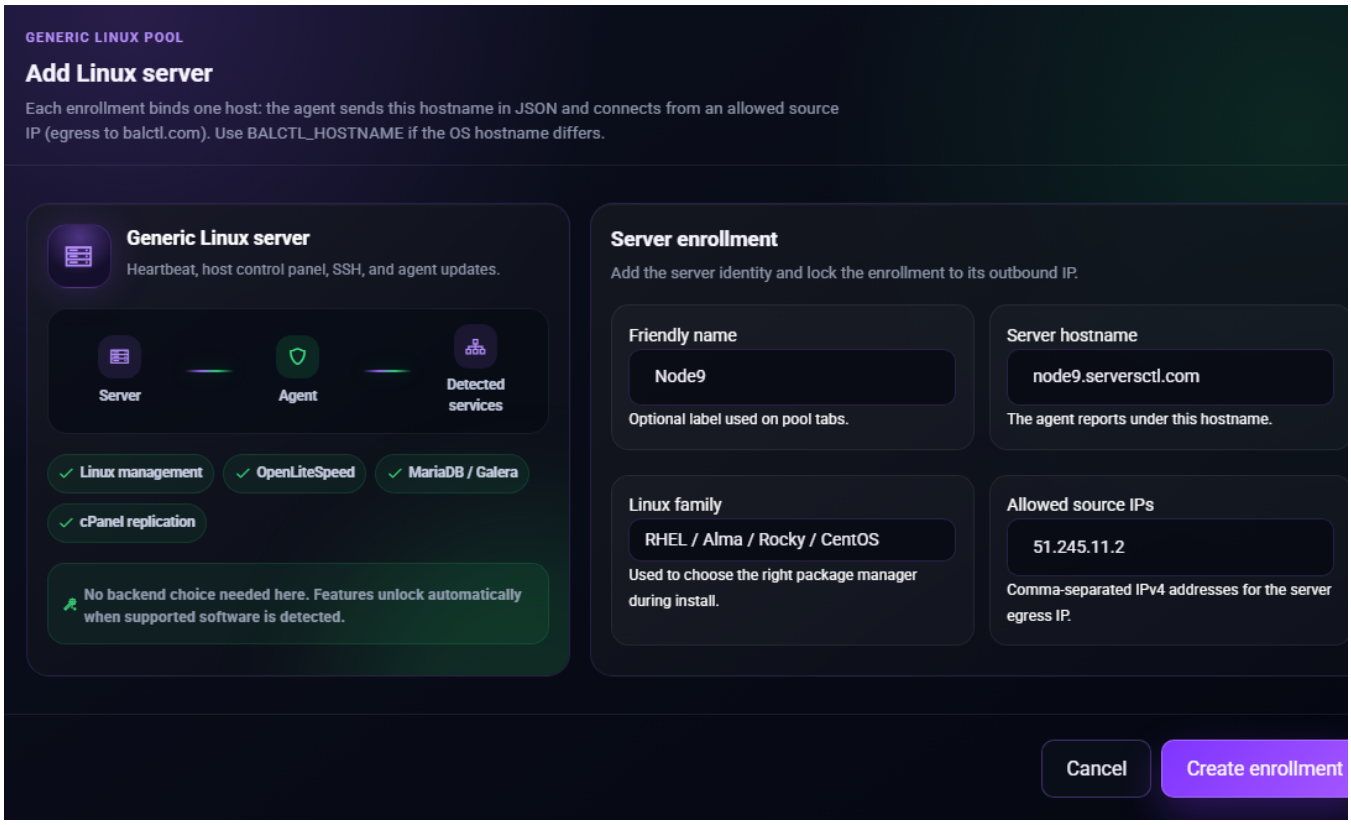
- Sign in at serversctl.com → Pools → Create Pool.



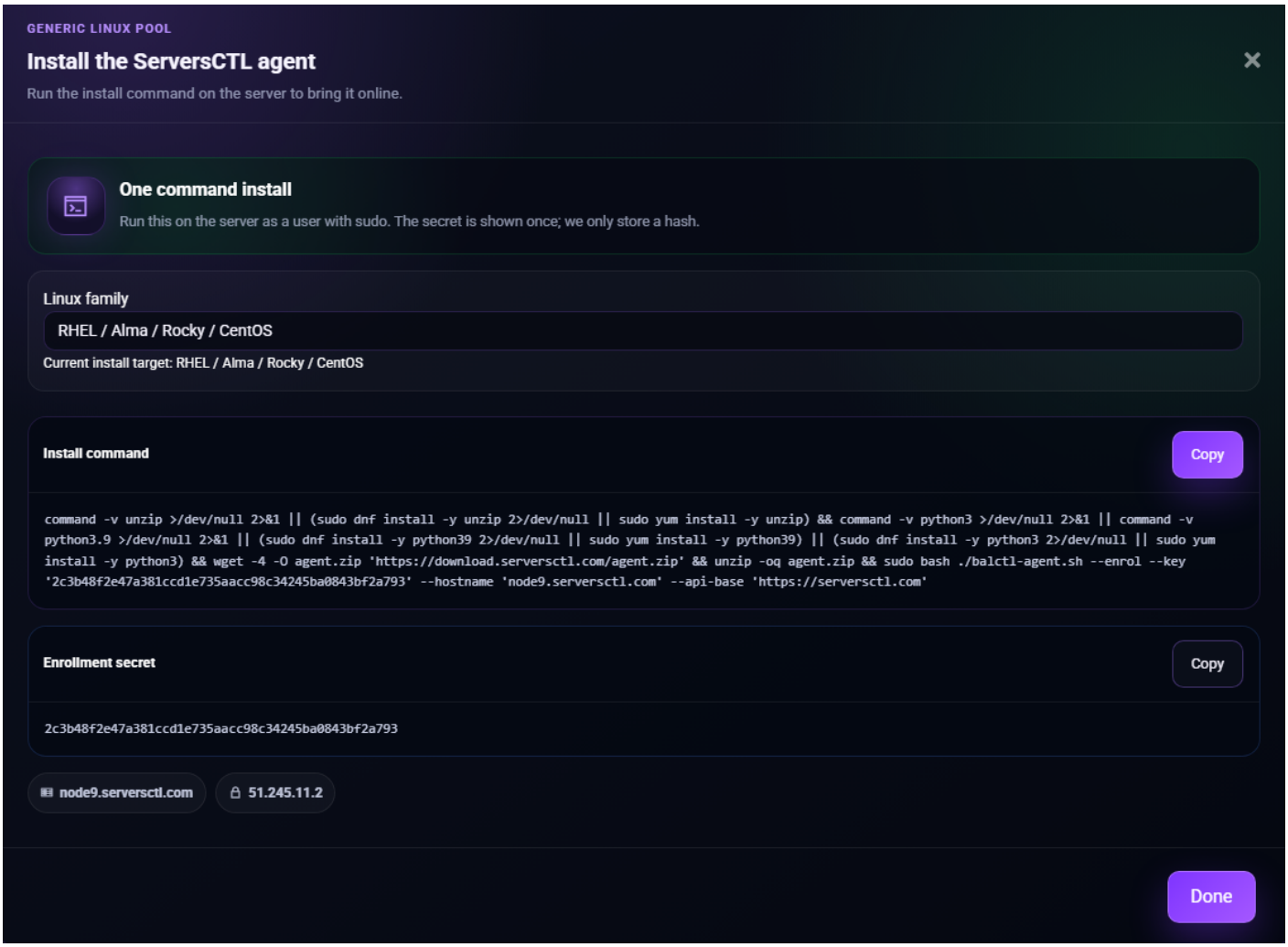
- Configuration preset: Generic Linux servers.



- Name the Pool.
- Now, go to the pool. Pool Overview → Add server. Choose — RHEL/Ubuntu - Enter hostname, allowed egress IP.



- Click Create Enrollment" and copy the install command.



On the VM:

- Paste the install command into the console to install the agent.
- If you have existing installs of cPanel, OpenLiteSpeed, MariaDB etc. The agent will report this to the UI.
- When 2+ members run cPanel: pool Protection and Managed DNS tabs appear (see Chapter 1).
- Optional: Configure DNS on Managed DNS for account-level cutover.

Add further members to the Pool

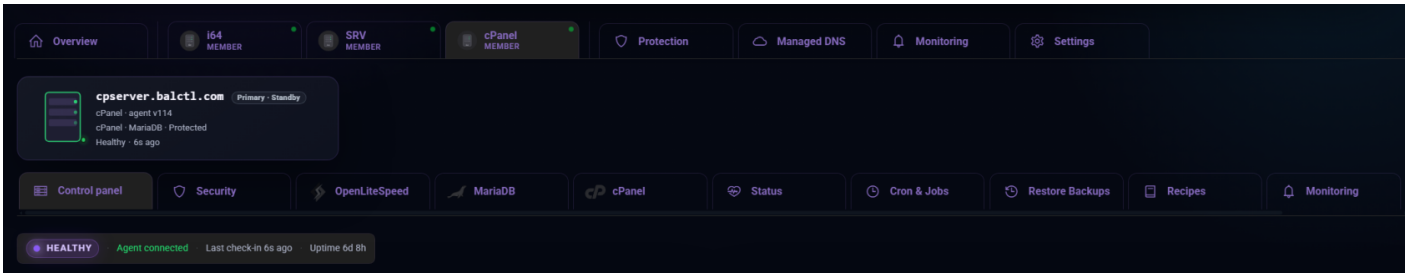
1. From the pool overview tab click "Add Member".
2. Name the member and supply the member's egress IP.
3. Copy the install command into the console of the server being added to the pool.
4. Repeat the process to add further members. There are no limits to the number of pools or members you may have.

How pool navigation works

Two layers on one screen

The UI is split into two sections. The top tabs manage overall pool settings and the lower tabs manage member settings.

Layer	What it controls	Examples
Pool tabs	Settings and services that span all members or protected accounts across members	Overview fleet, Protection replication, Managed DNS catalogue, pool Monitoring presets, pool Settings
Member tabs	One enrolled Linux server — host OS, detected stacks, jobs, and backups	Control panel, Security, cPanel, MariaDB, Cron & Jobs



Protection and Managed DNS are pool settings. They float in the top tab bar above the member server tabs. They coordinate account replication, DNS cutover, and provider keys across the fleet — not operations on a single box.

Pool tab visibility (Generic Linux template)

Pool tab	Always?	When it appears
Overview	Yes	Default landing
Member tabs (one per server)	When enrolled	Subtitle Member on Generic pools (not Active/Standby)
Protection	No	2+ members with cPanel detected
Managed DNS	No	Same as Protection on Generic pools (2+ cPanel members)
Monitoring	Yes	Pool-wide alert presets
Settings	Yes	Pool name, API providers, delete pool

Tab: Overview (first pool tab).

Purpose: Fleet-wide health — are agents reporting, are backups and jobs healthy across Linux servers?

What you see

Section	Content
Fleet Status header	KPI widgets: member count, healthy agents, last check-in, backup count, cron jobs, running jobs, outdated agents
Fleet geography map	Members plotted when geo is set on each member’s Settings tab
Server tiles	One tile per enrolled member — click to open that member’s workspace
Actions	Add server, Pool settings

Operator actions

- Add server — enroll another VM (see §18)
- Click a server tile or member tab — jump to that member’s Control panel
- Pool settings — shortcut to pool Settings tab

Tab: Protection (pool tab bar).

When visible: 2+ pool members where the agent reports cPanel.

Purpose: Account-level warm standby — scheduled WHM backup → Secure Storage → restore on a standby server, with optional DNS cutover per protected account.

What you see

Section	Content
Protection dashboard	KPIs: protected accounts, replication health, last sync
Server cards	Each cPanel-eligible member — readiness, WHM link, geography
Protected accounts	Per-account source → standby mapping, schedule, TTL, DNS provider
Replication log	Sync, DNS cut, transfer, and failure events
Geo map	Primary / standby geography when locations are set

Operator workflow

1. Ensure 2+ cPanel members and WHM API keys (Settings or Managed DNS → API providers).
2. Add protection — pick source account, target standby member, schedule (`1h` … `1mo`), DNS TTL, DNS provider (Cloudflare or WHM).
3. Replicate now / Replicate protected (Pro) — on-demand sync.
4. Account Cut DNS — per-account A record swing to standby (coordinates with Managed DNS).
5. After DNS cut: post-failover hook on standby.

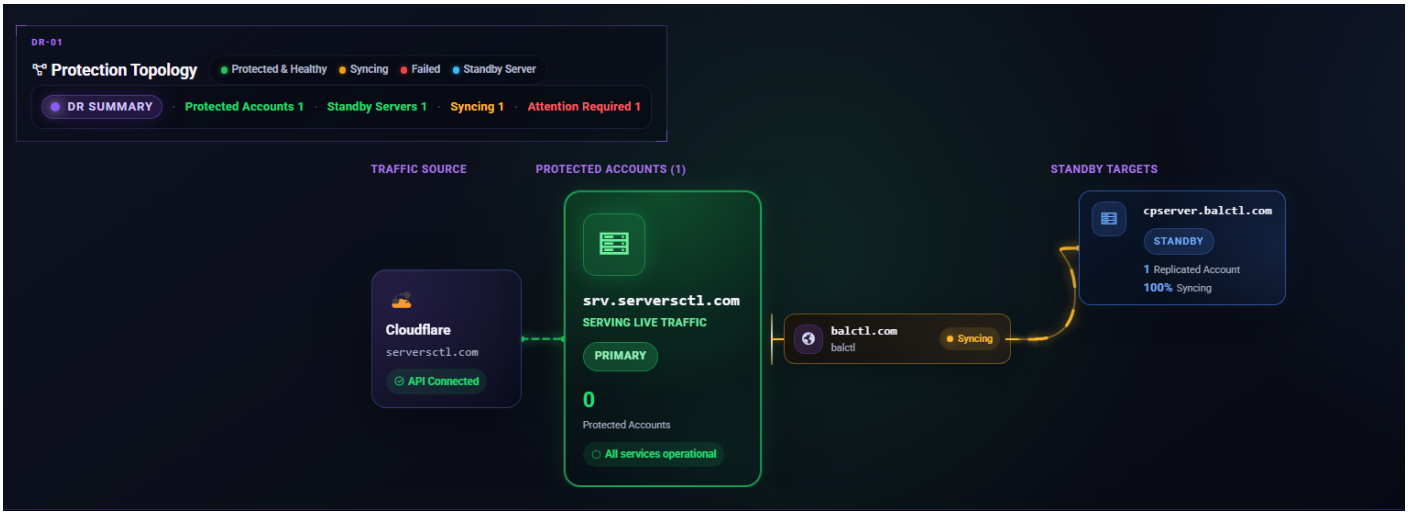
Relationship to member tabs

Task	Where
Bulk account replication, schedules, protection DNS	Pool Protection
Single-account migrate, live transfer sessions	Member cPanel → Migrate & Recovery
WHM account CRUD, suspend, AutoSSL	Member cPanel → Accounts

Protection is pool-wide orchestration; member cPanel is per-server WHM operations.

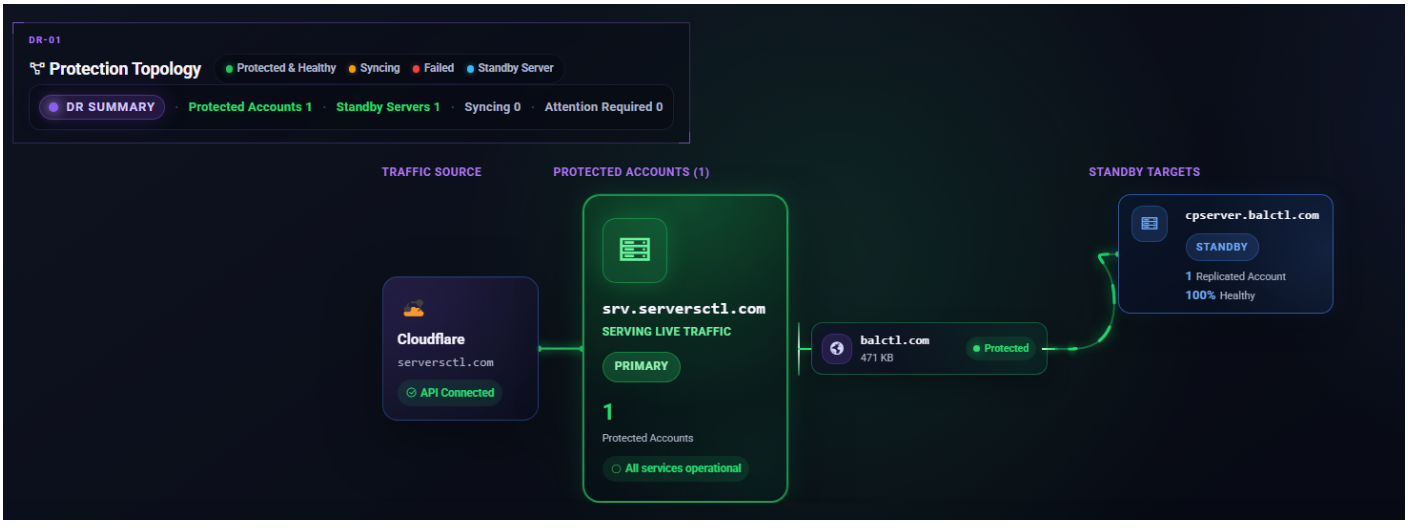
Replication Transfer

Replication can take anywhere from a few minutes to several hours, depending on the size of the account.



The source agent will package the account and split it into multiple chunks, which are securely stored temporarily in D2 storage. Once all chunks have been uploaded, the UI instructs the receiving agent to download them and begin the restore process.

After the restore has completed successfully, all stored chunks are automatically removed from S3. As a guide, a **1.8GB backup typically takes around 5 minutes** to replicate. Please take replication time into account when configuring your schedule. If the account is large, you may need to replicate **once per day** or **every few days** to avoid overlap and ensure the process completes cleanly.



Tab: Managed DNS (pool tab bar).

When visible (Generic Linux): 2+ cPanel-detected members

Purpose: Pool-level DNS catalogue for protected accounts and optional dynamic DNS — WHM vs Cloudflare zones, record health, sync, import. The API keys listed here are for DNS only. Do not use your production WHM API key here. You must use Cloudflare or a cPanel DNS Cluster API Key.

What you see

Section	Content
DNS Health	Zone summary, provider linkage, drift, topology banner (DNS Provider → Primary → Standby) when Protection is active
Protected account records	Per-FQDN proxied/DNS-only, enabled, active IP, cut actions
API providers	Cloudflare account keys (one Global), per-member WHM keys
Dynamic DNS card	Failover hostname and sync toggle (Generic pools — primary place for DNS failover config)
Actions	Refresh DNS, Sync WHM→CF, Add record, Import from Cloudflare

Operator actions

- Connect Cloudflare and/or cPanel DNS API credentials
- Import existing Cloudflare records into the catalogue
- Sync WHM→CF after account changes on WHM
- Account Cut DNS from record rows (also available on Protection cards)
- Set failover hostname and enable DNS sync (when using pool-level cutover)

Protected DNS

The UI treats WHM servers as the **source of truth** and replicates changes to any linked DNS provider, as long as the account is marked as **Managed**. By default, the only record that will cut over automatically is the domain's **A record**.

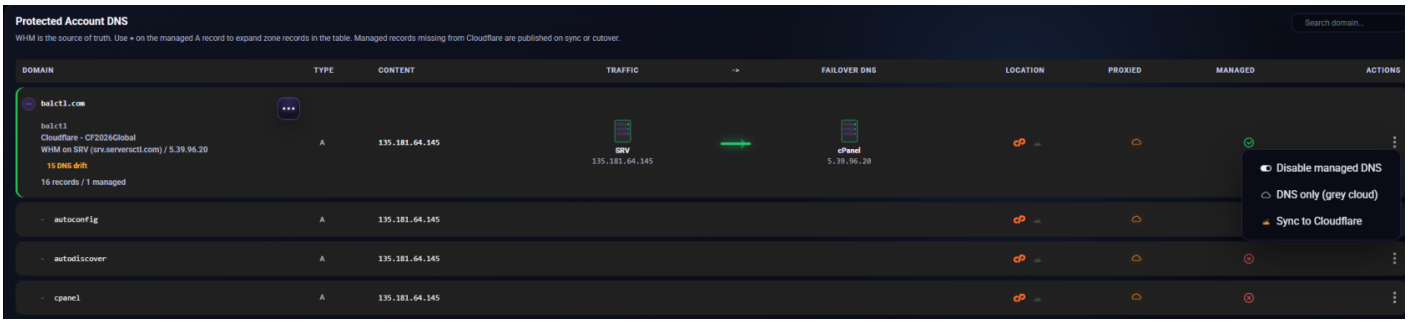
Multiple DNS Record Cut Over

You can configure the UI to cut over additional DNS records from the **Protected Account DNS** list. From here, you can specify **A**, **AAAA**, **MX**, and **SRV** records that should automatically cut to a standby server when the primary becomes unavailable.

Actions

The three-dot menu under the **Action** column provides additional fine-tuning options:

- **Disable Managed DNS** – When disabled, DNS records will not be updated or cut over during failover.
- **DNS Only** – During cutover, Cloudflare proxying will be disabled (grey cloud), ensuring a direct DNS-level switch without CDN caching or WAF interference.
- **Sync to Cloudflare** – If you've added new DNS records in WHM's DNS Manager, they will appear in the Protected DNS table and can be automatically pushed to Cloudflare.



Pool vs member DNS

Scope	Tab
Protected accounts, zone catalogue, provider keys, and failover FQDN	Pool Managed DNS
Per-member WHM key rotation	Pool Settings or Managed DNS API panel
Host TLS / Let’s Encrypt on a single VM	Member Control Panel or Recipes

Tab: Monitoring (pool tab bar).

Purpose: Pool-wide monitoring presets — distinct from per-member alerts on each server’s Monitoring tab.

Generic pool without Protection (0–1 cPanel members)

Infrastructure alerts section:

- Heartbeat miss thresholds, CPU/disk/service alert toggles
- Optional alert email recipients (account + team inboxes)

Generic pool with Protection (2+ cPanel members)

Protection DNS failover section (in addition to or instead of infrastructure, depending on layout):

Preset	Meaning
Failover banner	How long pool header shows Failover active after DNS cut (Community: 2 h max)

Preset	Meaning
Failover email	Notify when DNS moves to standby
Failover alert recipients	Team inboxes for protection cutover

Operator note

Configure per-member heartbeat and resource alerts on each server’s member Monitoring tab. Pool Monitoring is for fleet-level and protection DNS behavior.

Tab: Settings (pool tab bar).

Purpose: Pool identity, shared API credentials, danger zone.

What you see (Generic Linux)

Card	Content
Pool name	Rename the pool
API providers	Cloudflare account keys (mark one Global). Each cPanel server needs its own WHM key (pool-level + per-member rows)
Danger zone	Delete pool

What is NOT on the Generic pool Settings

Feature	Where instead
Balancer failover (auto-failover delay, make-active hostname)	Managed DNS (when tab visible) or optional — Generic pools work without DNS
Protection jobs	Protection tab
DNS record catalog	Managed DNS tab

HAProxy pools include Balancer failover on Settings.

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