

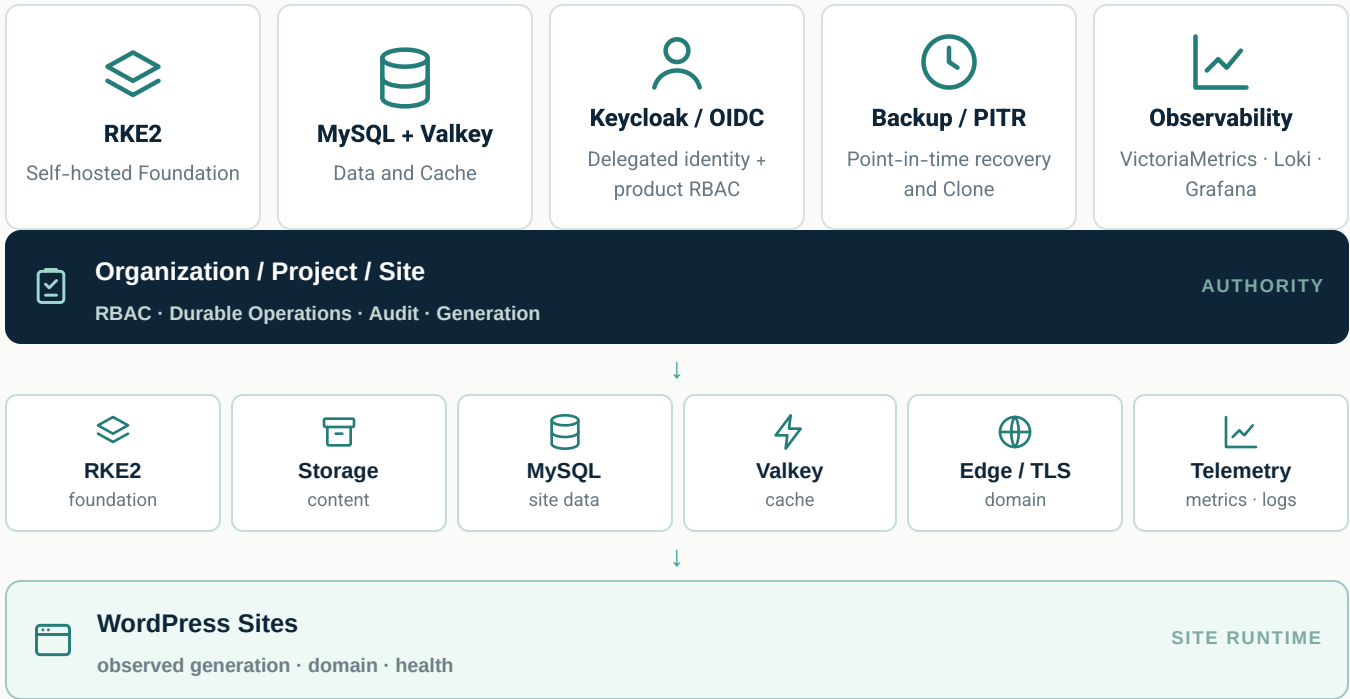
TECHNICAL BROCHURE · SELF-CONTAINED MANAGED WORDPRESS PLATFORM

4SO Enterprise WordPress

Technical Brochure

WordPress as an Operated Platform, not a Collection of Plugins

A self-hosted platform that turns Site, Domain, Storage, Database, Cache, Update, Security and Backup into manageable resources in one PaaS, all under a shared Product Authority.



A Site is not just a Pod

Data, cache, Storage, Domain/TLS, capacity, recovery and Access are all part of that same Site's lifecycle.

One authority for Panel, API and MCP

All three work on the same Product RBAC and Durable Operations, so no interface can bypass the lifecycle.

Operate WordPress as a Platform, not as a collection of servers and plugins.

CAPABILITY SNAPSHOT

Capability Snapshot

Every layer of a WordPress Platform, in one product model

The focus is the site lifecycle: creation, Domain binding, capacity, Update, recovery, Security and day-to-day operations.



Site Management
Create, Suspend/Resume, Clone and Staging



Org, Project and RBAC
Access on product-owned boundaries



Storage Platform
Policy for data and backups



Database and Cache
MySQL and Valkey under the Platform lifecycle



Domain, TLS and Edge
Domain Binding, HTTPS and Edge policy



Observability
Health, Metrics, Logs and APM-lite



Capacity
Scale decisions matched to the workload



Recovery and Security
Backup/PITR, Access grant and Safe Update

Product ownership boundary

RKE2 – Foundation runtime

Product API / RBAC – the Site authority

Keycloak / OIDC – delegated identity, not product permission

Operation + Outbox + Audit – on the same Resource

Operating principles

No direct shell or SQL access for workflows

Site deletion only with an exact Site ID confirmation and purgeData

Recovery, DR and Migration fence general changes

Success only on Generation and Readiness convergence



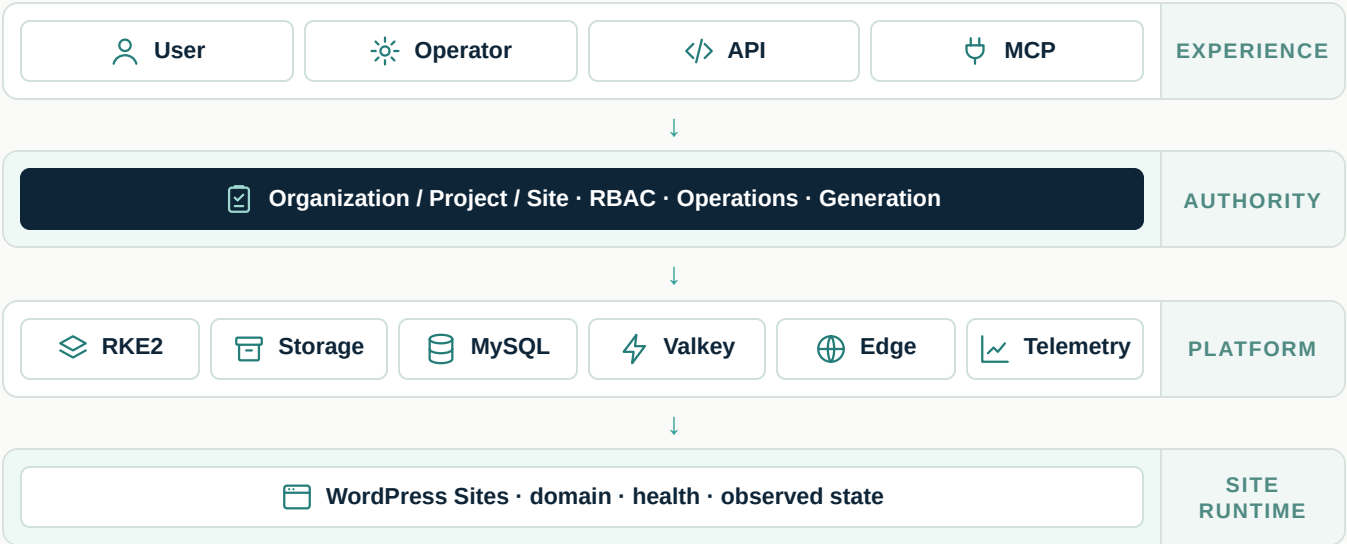
Core contract: Site Intent → Durable Operation → Outbox → Controller / Plane → Observed Generation

ARCHITECTURE OVERVIEW

Architecture Overview

A Site is operated on top of a set of Platform Services

The Control Plane holds Intent, RBAC and Operations; the Infrastructure, Storage, Data, Edge and recovery layers execute change, and the Site shows the result.



Layer	Component	Operational behavior
Foundation	RKE2	The Platform is built and verified before any Site
Identity	Keycloak / OIDC + Product RBAC	The identity provider does not replace the product permission model
Data Plane	MySQL + Valkey	Data services have their own lifecycle and capacity
Storage / Edge	Storage + Domain/TLS	Domain and Storage are part of the Site lifecycle
Observability	VictoriaMetrics · Loki · Alloy · Grafana	Site health is built from Telemetry and read-back
Recovery	Backup · PITR · Clone · Staging	Restore is a product workflow, not an emergency command

 **AI / MCP:** consumes the same Product API, RBAC and Durable Operation; it has no separate shortcut to the Runtime.

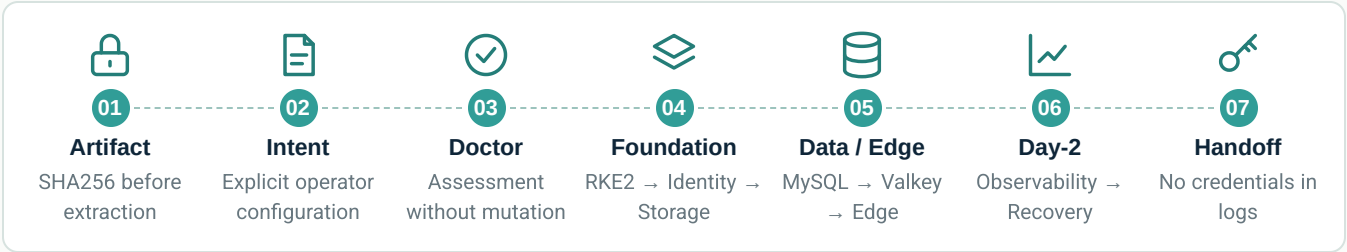
PLATFORM DEPLOYMENT MODEL

Deployment & Install Authority

The Production core starts at three nodes and grows as a Platform

Profile	Foundation	Site runtime	Use
Production Core	3 nodes	Sites on Platform Services	Enterprise baseline with infrastructure HA
Scale-out	Core + added nodes	Broader Site Capacity	More capacity without a separate Platform
Staging / Clone	Same product authority	Separate environment for Test and recovery	Change testing and controlled transfer
Multi-region	Product-defined regions	Placement and Edge matched to the Region	Site distribution across multiple failure domains

SEALED INSTALL PATH



Pinned host key

Independent SSH fingerprint before bootstrap; TOFU is not accepted

Exact parity

Archive and tree are verified again after extraction

Operable at handoff

Installation is complete only when the operational planes are also available

Sealed

Attested

Ordered

Credential-free

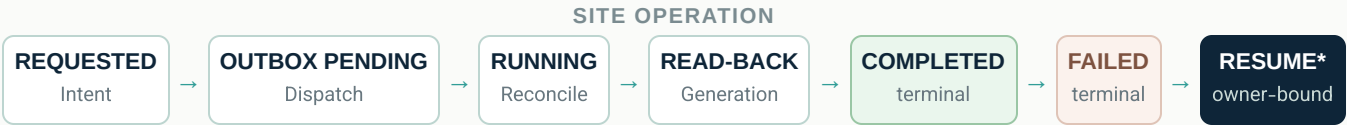
Region ≠ global failover: multi-region Placement is not claimed to mean automatic global failover.

ACTION & WORKFLOW CONTRACT

Action & Workflow Contract

Intent, Operation, Outbox, Audit and Generation form one chain

A Site mutation is bound to a specific Generation through an Idempotency-Key and request fingerprint.



Action	Admission	Execution / Lock	Success	Failure / Recovery
Create / Reconcile	Org/Project/Plan/Region and Platform readiness	Intent + Operation + Outbox + Audit on one Generation	ObservedGeneration equals Target and Readiness is complete	Failed is terminal; Resume only for explicit families
Suspend / Resume	No active DR, Recovery or Migration fence	New Generation + site.reconcile	Observed state equals Intent	Conflict returns 409; a replay returns the same response
Safe Update	Compatibility, Canary and rollback checkpoint	Transition bound exactly to staging and backup	Canary and Generation confirmed before cutover	Generation drift makes the operation stale
Backup / PITR	Recovery point and data-plane compatibility	Recovery from the same Product authority	Site and data verified before Promote	Active Recovery fences other lifecycles
Plan Migration	Source/target Plan and Capacity admission	Requested → Reconciling → Prepared	Cutover after dependencies are ready	Explicit Rollback path
Delete Site	Exact confirmSiteId + purgeData=true	DeletionRequested + Outbox + Audit	Observed release and Deprovision	Active Recovery or Migration blocks deletion

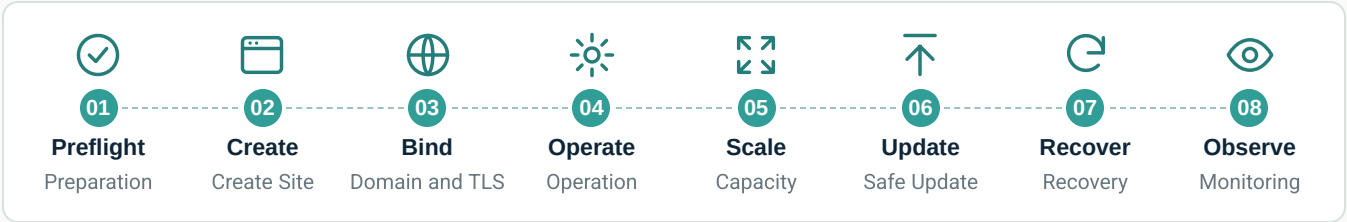
 **Resume is not general:** only Operations with a defined runtime generation and resume owner go from Failed back to Running; for all others, the terminal state is immutable.

LIFECYCLE

Lifecycle & Site Profiles

From Create to recovery, a Site is a live Resource

The lifecycle covers Setup, Domain, Capacity, Update, Backup, recovery and Security, not just the initial WordPress installation.





Site Operations

Create, Suspend/Resume, Domain and Health



Safe Update

Preflight, Schedule and Verification



Recovery

Backup/PITR, Clone and Staging



Capacity

Policy, Workload profile and Scaling



Edge & Security

Domain binding, Edge policy and Posture



Access & AI

Access grant and delegated MCP under the same RBAC



Generation-fenced

Every change is bound to a target Generation



Recovery-aware

Active Recovery fences the general lifecycle



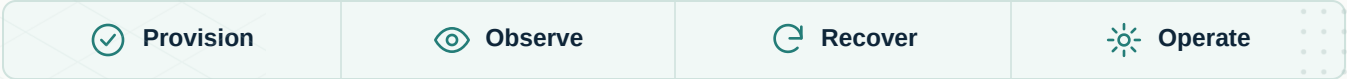
Destructive-safe

Delete with confirmation and explicit purge



No direct bypass

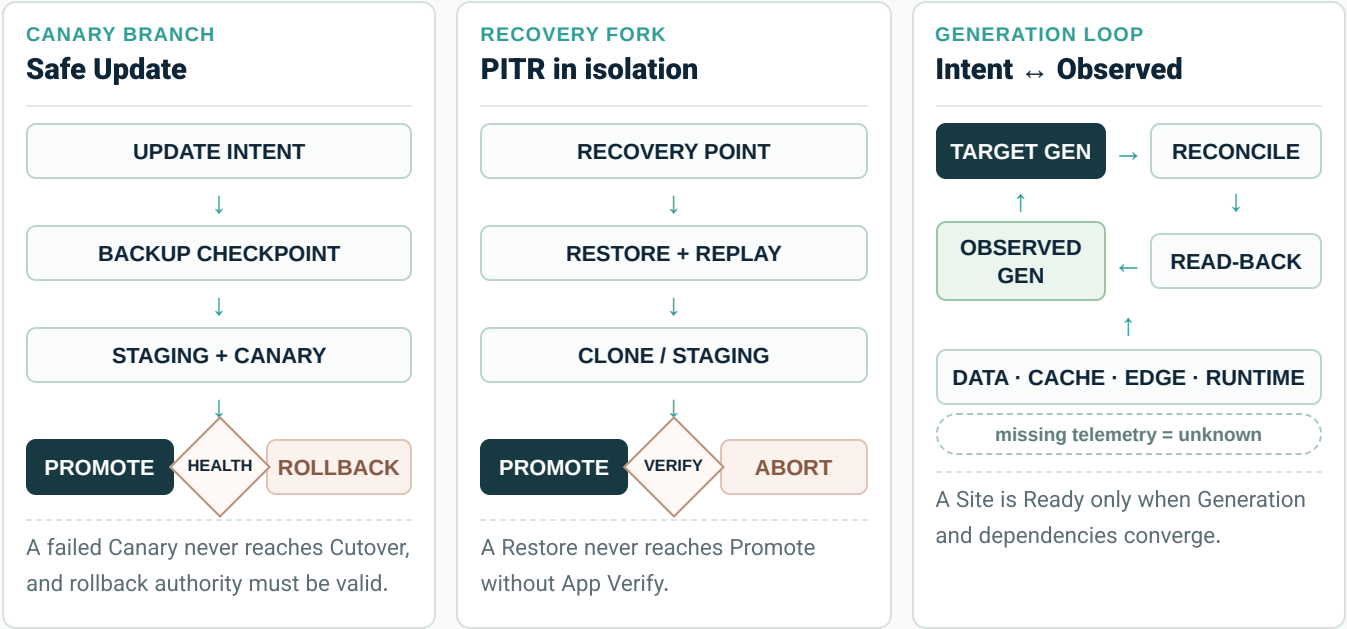
Panel and MCP consume the same Product API



DEEP TECH WORKFLOWS

Failure & Recovery Semantics

Failure is visible in every Plane, not hidden



Failure Domain	Detection	Product Behavior	Recovery / Fence
App replicas	Runtime readiness	Site degraded; no false Ready	Reconcile, Scale or Restart
MySQL / Valkey	Data and Cache readiness	ApplicationReady=false	Data plane recovery
Storage	Storage observation	Content path degraded	Storage recovery
Edge / TLS	Domain and Edge status	Site not Ready from outside	Edge-layer Reconcile
Unknown upgrade	Runtime operation binding	No automatic re-execution	Permitted Resume or operator recovery
PITR failure	Recovery phase and evidence	Promote is not performed	Rollback and isolated verification

 **Availability guardrails:** App replicas ≠ database HA · Region placement ≠ global failover — and acceptance into the Outbox alone is not success.

ACTION & OPERATIONS CATALOG

Action & Operations Catalog

Operators work with Sites and Outcomes, not Kubernetes components

Site •

• create

• reconcile

• suspend

• resume

• delete

Recovery •

• backup

• PITR

• clone

• staging

• restore

Runtime •

• safe update

• PHP transition

• rollback checkpoint

Capacity •

• plan

• policy

• event floor

• history

Edge •

• domain bind

• TLS

• cache

• security policy

Access •

• grant

• revoke

• identity

Identity and Security

Keycloak/OIDC for identity; Product RBAC for Site permission

Step-up and approval for sensitive operations

Secrets and passwords are never exposed in handoff or MCP

Observability and Evidence

VictoriaMetrics, Loki, Alloy and Grafana

NO_DATA and PARTIAL stay explicit, never green

The Site cockpit correlates operations and recovery

Action safety: every Action requires an exact Site ID, Generation and permission; bulk or destructive shortcuts without an owner contract are not allowed.

Operate WordPress as a Platform.

4SO Enterprise WordPress brings Site, Data, Edge and recovery operations into one unified experience.

