MR.PLANB FIELD GUIDE · MONITORING

Zabbix Enterprise Monitoring: Architecture Cheat Sheet

What Zabbix 7.0 LTS adds, how active and passive checks differ, and how it compares with Prometheus, Nagios and Datadog.

Updated **2026-10-29** · Full guide: www.mrplanb.com/comparisons/zabbix-enterprise-monitoring

> Zabbix is an open source enterprise monitoring platform released only under AGPLv3, with no Enterprise Edition. Zabbix 7.0 LTS adds asynchronous pollers, synthetic browser monitoring, proxy load balancing and native MFA, so one cluster can monitor millions of metrics. It needs more configuration up front than SaaS alternatives.

2001
initial release

AGPLv3
only license, no Enterprise Edition

5 years
LTS support

1,000
concurrent checks per async poller process

Core architecture

Zabbix Server
Central component of the monitoring system.

Database Layer
Relational storage (MySQL/PG) plus TimescaleDB, with strong consistency.

Web Frontend
Native dashboards, plus a Grafana plugin.

Zabbix Agent
Runs on monitored hosts for passive or active checks.

Zabbix Proxy
Collects and buffers data locally before forwarding it to the server.

What 7.0 LTS adds

Feature	What it does	Benefit
Asynchronous pollers	One poller process handles up to 1,000 concurrent checks	Higher throughput at scale
Browser item	Selenium-based synthetic monitoring	User journey tests without extra tools
Proxy load balancing	Proxy groups distribute hosts and fail over	No single point of failure
Centralized timeouts	Global GUI/API setting, per proxy or item override	Fewer false positives on slow links
Honeycomb widget	Thousands of hosts or containers in one view	Spot outliers in large clusters
Native MFA	Multi-factor authentication built in	Enterprise compliance

Active vs passive checks

	Passive	Active
Direction	Server connects to agent	Agent connects to server
Initiator	Zabbix server or proxy	Zabbix agent
Firewall	Port 10050 open on agent side	Port 10051 open on server side
Use case	LAN, strict server control	Cloud, NAT, unstable networks, laptops
Server load	Higher (poller processes)	Lower (trapper processes)

Zabbix vs the alternatives

	Zabbix	Prometheus	Nagios	Datadog
Model	Push/pull hybrid, central server	Pull, decentralized TSDB	Active check scheduler	SaaS push agents
Strength	Versatility, SNMP, hardware	Kubernetes, high cardinality	Basic up/down checks	Observability, zero-config
Visualization	Strong native plus Grafana	Basic, relies on Grafana	Very basic	Best-in-class
Licensing	100% free AGPLv3	Apache 2.0	Open core, paid XI	Commercial subscription

Integration and security

- API is JSON-RPC 2.0 over HTTP POST to `api_jsonrpc.php`; authentication returns a hash used in later requests.
- Webhooks are JavaScript scripts: send alerts to Jira, ServiceNow or PagerDuty, store the ticket ID and auto-close tickets.
- Full TLS between components with CA-signed certificates or pre-shared keys (PSK).
- HashiCorp Vault and CyberArk integration for dynamic credentials.
- RBAC with User, Admin and Super Admin types, granted at the Host Group level.

Sources and notes: Official Zabbix Documentation · What's New in Zabbix 7.0 LTS · Zabbix GitHub repository