



— PLATFORM WORKLOAD ANALYSIS REPORT

State of Spot 2026

Comprehensive insights into how organizations leverage Spot for production Kubernetes workloads — technology trends, operational maturity, and platform opportunities.

100s

ORGANIZATIONS

10k+

ACTIVE WORKLOADS

98%

GITOPS ADOPTION

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Platform at a Glance

This inaugural **State of Spot** report provides comprehensive insights into how organizations are leveraging the Spot platform for their Kubernetes workloads. Based on an analysis of hundreds of cloudspaces running tens of thousands of workloads across hundreds of organizations, we reveal key trends in cloud-native adoption, technology preferences, and operational maturity.

98% GitOps Adoption <i>2× industry average</i>	64% Deployment-Centric Workloads <i>Stateless apps dominate</i>	51% Stateful Workload Adoption <i>Strong platform trust</i>	14% Autoscaling (HPA) Usage <i>Significant opportunity</i>
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KEY FINDING

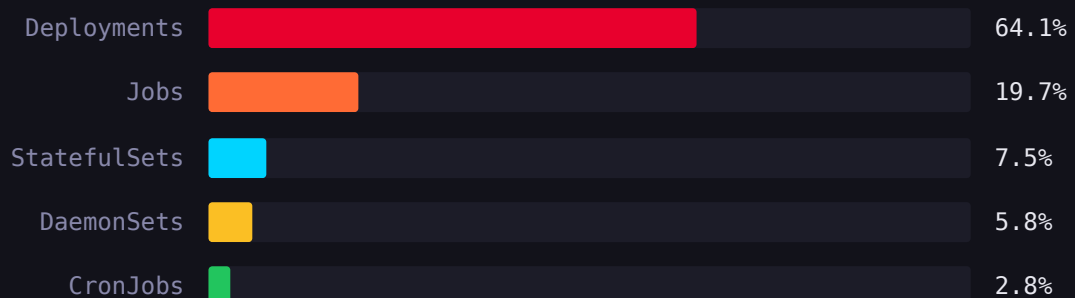
The platform is running sophisticated, production-grade Kubernetes workloads with exceptional GitOps maturity. Across hundreds of organizations and tens of thousands of workloads, Spot has achieved significant production adoption—while the 86% of cloudspaces lacking autoscaling represents the single largest optimization opportunity on the platform.

How Workloads Are Structured

Workload Type Distribution

Analysis of workloads reveals clear patterns in how organizations structure their applications:

Workload Type Breakdown (% of total workloads)



- 01 Deployments Dominate (64%):** Traditional stateless applications remain the primary workload pattern, indicating mature cloud-native practices.
- 02 Significant Batch Processing (20%):** Jobs represent nearly 1-in-5 workloads, suggesting strong adoption for data processing, ML training, and batch operations.
- 03 Stateful Workloads (7.5%):** StatefulSets indicate growing confidence in running databases and stateful applications on Spot.
- 04 Infrastructure Services (5.8%):** DaemonSets for monitoring, logging, and networking show mature operational practices.
- 05 Scheduled Automation (2.8%):** CronJobs demonstrate adoption of automated maintenance and periodic processing.

Architecture Patterns

98.2%

Stateless Application Architectures

51.5%

Cloudspaces Running Stateful Applications

INSIGHT

51.5% of cloudspaces run stateful applications, indicating **strong trust in the platform for persistent workloads**. The overlap shows sophisticated architectures combining both patterns—organizations are not choosing one or the other, they're deploying both.

Modern Cloud-Native Adoption

Beyond standard Kubernetes infrastructure, analysis reveals sophisticated adoption of modern cloud-native technologies and emerging patterns across workflow orchestration, GitOps, databases, observability, and security.

GitOps & Continuous Deployment

GitOps Tool Adoption (% of cloudspaces)



SURPRISING FINDING

12% FluxCD adoption alongside ArgoCD shows multi-tool GitOps strategies—organizations running both tools simultaneously for different use cases. Version diversity (v2.14 to v3.3) indicates gradual, controlled upgrades rather than rushing to latest versions—a sign of production maturity.

Database Technologies

Database Adoption Patterns (% of database workloads)



- 01 **Relational Databases Lead:** MySQL and PostgreSQL combined represent 58% of database workloads.

- 02 **Caching is Critical:** Redis adoption (30%) shows sophisticated application architectures with caching layers.

- 03 **Managed Operators:** Percona PostgreSQL Operator and Crunchy Data PostgreSQL operator widely deployed, indicating a shift from manual database administration to operator-managed infrastructure.

- 04 **Event Streaming:** Kafka presence indicates modern event-driven architectures are emerging on the platform.

Observability

Observability Stack Adoption (% of cloudspaces)



OBSERVABILITY TREND

13% OpenTelemetry adoption represents the future of observability—a shift from monitoring to full observability. Organizations are moving from "is it up?" (Prometheus metrics) to "why is it slow?" (metrics + logs + traces). Grafana Loki is emerging as a Kubernetes-native log aggregation solution, replacing the ELK stack.

Security, Networking & AI/ML

Cloudflare Tunnel

~9%

Secure ingress without exposed ports — leading zero-trust

Dex (OIDC)

~10%

Identity provider of choice — native K8s + ArgoCD integration

External Secrets

~5%

Eliminates hardcoded secrets; cloud provider integration

adoption

Cert-Manager

~5%

Automated TLS — Let's Encrypt integration standard

Tailscale Operator

~5%

Mesh VPN for service-to-service zero-trust communication

Temporal

~11%

Durable execution for complex microservices orchestration

MinIO

~9%

S3-compatible object storage; cloud-native data lake patterns

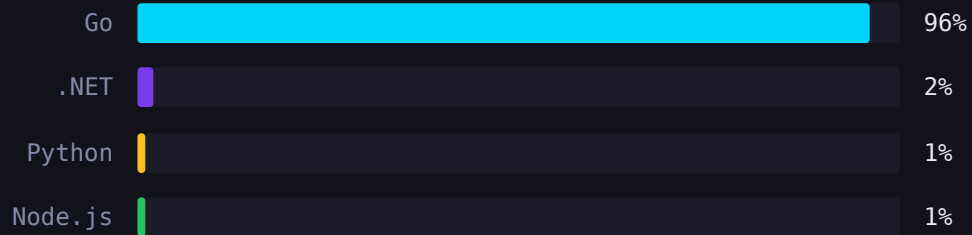
NVIDIA GPU Operator

Emerging

GPU resource management — NVIDIA NIM inference microservices

Programming Languages

Language Detection in Container Images



INSIGHT

Go dominates at 96% for cloud-native applications—reflecting its native Kubernetes tooling ecosystem, performance for microservices, and strong concurrency model. The remaining 4% shows diversity in legacy modernization and specialized workloads (Python for ML, .NET for enterprise migrations).

Automation, Scaling & Storage

Autoscaling Adoption

Horizontal Pod Autoscaler (HPA) Usage



▲ CRITICAL FINDING

Only **14% of cloudspaces utilize Horizontal Pod Autoscaling**—representing the single largest optimization opportunity on the platform. Manual scaling leads to over-provisioning (cost inefficiency), inability to handle traffic spikes (performance risk), and operational burden requiring manual intervention for scaling events.

Storage Patterns

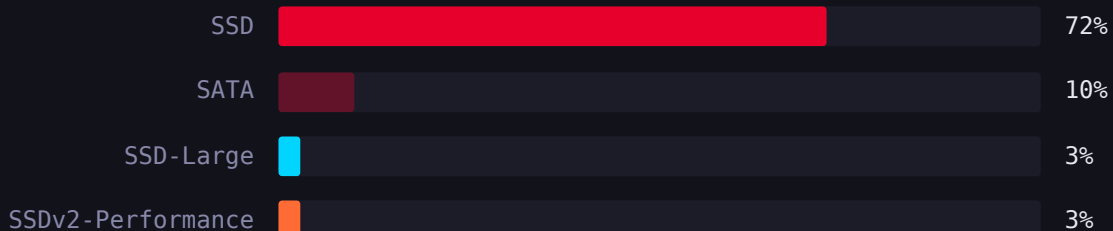
45%

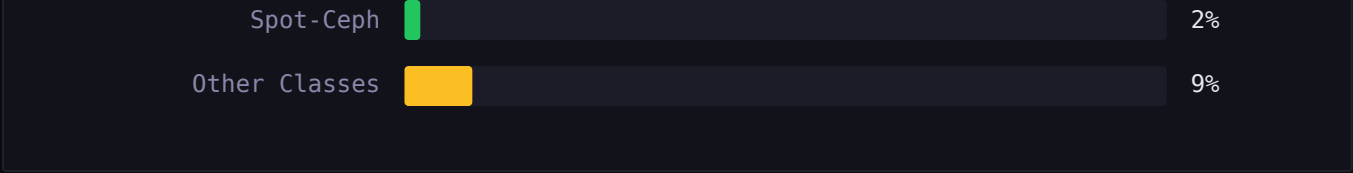
Using Persistent Storage

55%

Ephemeral Storage Only

Storage Class Distribution (% of persistent volumes)





SSD dominates at 72% of persistent volumes, indicating performance-critical workloads. Only 10% use SATA, suggesting users prioritize performance over cost savings.

Adoption Lifecycle Analysis

Organization Maturity Segments



Workload Density by Maturity

MATURITY SEGMENT	SHARE	AVG DEPLOYMENTS	AVG STATEFULSETS	HPA ADOPTION
Mature (>1 year)	29%	15.2	1.4	14%
Established (3–12 mo)	48%	16.1	2.1	13%
New (<3 months)	23%	18.7	2.3	17%

SURPRISING FINDING

New organizations (<3 months) show **higher workload density and better HPA adoption** than established users. This suggests improved onboarding that accelerates time-to-value, newer users bringing contemporary cloud-native knowledge, and greenfield implementations enabling better architectural decisions from day one. **Recommendation:** Extract best practices from new users to improve established customer outcomes.

What's Running on Spot

- 01 Microservices Architectures (64% — Deployments):** Go-based services dominate, with RESTful APIs, gRPC services, and service mesh adoption detected via sidecar patterns.

- 02 Data Processing & ML (20% — Jobs):** Batch processing pipelines, machine learning training jobs, and ETL workflows form a substantial workload category.

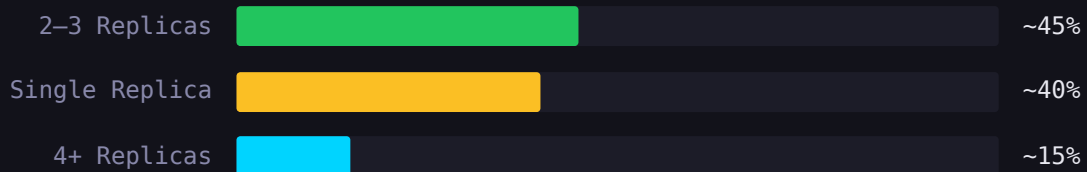
- 03 Databases & Caching (7.5% — StatefulSets):** MySQL, PostgreSQL, Redis, Kafka for event streaming, and Elasticsearch for search/analytics.

- 04 Infrastructure Services (5.8% — DaemonSets):** Monitoring agents (Prometheus, Datadog), log collectors, and network plugins.

- 05 Scheduled Tasks (2.8% — CronJobs):** Backup operations, data synchronization, and periodic cleanup jobs.

HA Patterns & Backup Strategy

Deployment Replica Patterns



- 01 **Development vs. Production Split:** 40% single-replica suggests healthy dev/test environment usage alongside production workloads.
- 02 **Production HA Standard:** 45% with 2-3 replicas shows basic high-availability is standard practice, aligning with zone-aware Kubernetes best practices.
- 03 **Mission-Critical Services:** 15% with 4+ replicas indicates sophisticated load distribution and fault tolerance for high-stakes workloads.

Backup & Disaster Recovery

Organizations are implementing multi-layered resilience strategies combining replication, automated backups, and disaster recovery tools—going beyond basic Kubernetes primitives.

Database Operator Backups

~6%

Percona PostgreSQL + pgBackRest; Crunchy Data with automated schedules

CronJob Backups

Multiple

Present across multiple workload types; custom backup scheduling

Object Storage (MinIO)

~9%

S3-compatible target often paired with backup solutions

Industry Benchmarks

METRIC	SPOT PLATFORM	INDUSTRY TREND*	ASSESSMENT
GitOps Adoption	98%	45% typical	+53% ↑
Autoscaling Adoption	14%	35% typical	-21% ↓
Stateful Workloads	51%	40% typical	+11% ↑
OpenTelemetry	13%	8% typical	Early Adopter ↑
Zero-Trust Networking	16%	5% typical	Leading Edge ↑

* Industry trends based on CNCF surveys and Kubernetes adoption reports

✓ PLATFORM STRENGTHS

Exceptional GitOps maturity — nearly universal automation exceeds industry by 2×. **Strong stateful workload confidence** — 11% above average shows platform reliability. **Security-forward** — zero-trust networking adoption 3× the industry average. **Sophisticated DevOps practices** — modern tooling (Temporal, Crossplane, Backstage) indicates advanced users.

△ GAPS TO ADDRESS

Autoscaling education gap — 21% below industry average represents the single largest opportunity. Full observability stack (logs, traces) has room to grow beyond Prometheus. Platform engineering tooling (IDP, Crossplane, Backstage) shows early-stage adoption with significant growth potential.

Top 5 Platform Opportunities

<p>01</p> <p>Autoscaling Education</p> <p>86% of cloudspaces lack HPA — largest optimization gap on the platform.</p> <table border="0"><tr><td>IMPACT</td><td>EFFORT</td></tr><tr><td>High — Cost savings & performance</td><td>Medium — Docs & examples</td></tr></table>	IMPACT	EFFORT	High — Cost savings & performance	Medium — Docs & examples	<p>02</p> <p>Database-as-a-Service</p> <p>~80% of cloudspaces run database workloads without managed service support.</p> <table border="0"><tr><td>IMPACT</td><td>EFFORT</td></tr><tr><td>High — Operational simplification</td><td>High — New service development</td></tr></table>	IMPACT	EFFORT	High — Operational simplification	High — New service development
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<p>03</p> <p>Monitoring Integration</p> <p>~56% of cloudspaces run self-managed Prometheus/Grafana — platform integration opportunity.</p> <table border="0"><tr><td>IMPACT</td><td>EFFORT</td></tr><tr><td>Medium — Better observability</td><td>Low — Platform integration</td></tr></table>	IMPACT	EFFORT	Medium — Better observability	Low — Platform integration	<p>04</p> <p>Storage Optimization</p> <p>72% SSD usage — tiering recommendations could reduce costs.</p> <table border="0"><tr><td>IMPACT</td><td>EFFORT</td></tr><tr><td>Medium — Cost optimization</td><td>Low — Tiering recommendations</td></tr></table>	IMPACT	EFFORT	Medium — Cost optimization	Low — Tiering recommendations
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<p>05</p> <p>Multi-Region Patterns</p> <p>Regional distribution analysis reveals DR and latency opportunities.</p> <table border="0"><tr><td>IMPACT</td><td>EFFORT</td></tr><tr><td>Medium — DR & latency</td><td>Medium — Documentation</td></tr></table>	IMPACT	EFFORT	Medium — DR & latency	Medium — Documentation					
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New Customers (<3 months)

Maintain onboarding excellence · HPA quick-start guides · Architecture review sessions

Established (3–12 months)

Autoscaling workshops · Cost optimization reviews · Advanced feature adoption programs

Mature Customers (>1 year)

Platform roadmap sharing · Beta feature early access · Community leadership opportunities

Strategic Recommendations

Platform Development

- **Managed Autoscaling Service:** Pre-configured HPA templates, intelligent scaling recommendations, and cost impact visibility. Addresses the platform's single largest gap.
- **Database-as-a-Service:** Managed MySQL, PostgreSQL, and Redis with automated backups, high availability, and performance optimization.
- **Integrated Monitoring:** Platform-wide Prometheus/Grafana with pre-built dashboards and alerting templates — converts a widespread manual setup into a first-class feature.
- **Storage Tiering Advisor:** Automated SSD/SATA recommendations with cost/performance analysis and migration tools.

Customer Success

- **Autoscaling Bootcamp:** Hands-on HPA workshops, real-world examples, and a cost savings calculator to demonstrate tangible impact.
- **Architecture Reviews:** Quarterly health checks with best practice guidance and performance optimization recommendations.
- **Community Building:** User group meetings, success story sharing, and best practice documentation.

Marketing & Growth

- **GitOps Leadership:** Highlight 98% adoption rate and position Spot as the GitOps-native platform with developer-first messaging.
- **Stateful Confidence:** Showcase database workloads with reliability testimonials and performance benchmarks — 51% stateful adoption is a compelling proof point.

→ **Developer Experience:** Modern tooling integration, quick-start templates, and comprehensive documentation to accelerate new user time-to-value.

— 11 — TECHNOLOGY TRENDS

Emerging & Declining Patterns

Emerging Patterns

TECHNOLOGY	ADOPTION	SIGNAL
OpenTelemetry	13.3%	Next-generation observability; vendor-neutral instrumentation; growing rapidly
Cloudflare Integration	11.6%	Zero-trust networking; secure tunnel patterns; edge computing
Cert-Manager	5.2%	Automated certificate management; security best practices standard
External Secrets Operator	~5%	Secrets management evolution; cloud provider integration; security maturity

Declining Patterns

GOOD NEWS

Manual deployments are nearly extinct — only 2% manual/unknown deployment patterns remain. GitOps has won. Automation is the platform standard. Similarly, single-replica production deployments are decreasing as high availability awareness grows and platform reliability is demonstrated.

Looking Ahead

Expected Growth Areas

AI/ML

GPU support expansion · ML pipeline optimization
· Model serving platforms

Based on 20% Jobs + NVIDIA GPU Operator adoption

Events

Event-driven architectures · Streaming data · Real-time analytics

Based on ~4% Kafka adoption + Temporal 11% adoption

Edge

Distributed deployments · Low-latency requirements · Hybrid cloud patterns

Based on ~12% Cloudflare Tunnel adoption

SecOps

Zero-trust networking · Policy-as-code · Compliance automation

Based on ~5% External Secrets + 3× industry zero-trust

Platform Roadmap

- Q2 2026**
Autoscaling & Monitoring
 - Managed autoscaling service launch
 - Enhanced monitoring integration
 - Storage optimization tools
- Q3 2026**
Managed Services Beta
 - Database-as-a-Service beta
 - Multi-region orchestration
 - Advanced networking features
- Q4 2026**
Enterprise & AI/ML
 - AI/ML platform capabilities
 - Edge computing support
 - Enterprise security features

Platform Positioned for Growth

The State of Spot 2026 reveals a platform hosting sophisticated, production-grade Kubernetes workloads with exceptional GitOps maturity and strong confidence in stateful applications. Across hundreds of organizations and tens of thousands of workloads, Spot has achieved significant production adoption.

STRENGTHS

98% GitOps adoption ·
51% stateful workloads ·
3× zero-trust networking
above industry

PRIMARY OPPORTUNITY

86% of cloudspaces lack
autoscaling — the single
largest optimization
opportunity on the platform

STRATEGIC DIRECTION

Managed services
(DBaaS, monitoring,
autoscaling) · Developer
experience · GitOps
leadership community