CASE STUDY

Infrastructure Optimization and Kubernetes Resilience at Mercado Bitcoin with RealCloud

RealCloud



MB Mercado Bitcoin

About Mercado Bitcoin

Mercado Bitcoin (MB) is one of the leading digital asset and cryptocurrency platforms in Latin America. To deliver highly available, secure, and low-latency financial services to millions of users, the company maintains a robust and elastic public cloud infrastructure.



In a 24/7 market marked by sudden spikes in volatility and trading volume, maintaining an architecture that is resilient, high-performing, and financially efficient is a strategic pillar to sustain business growth.

The Challenge: Workload Sizing and Cost Management in Critical Environments

Mercado Bitcoin's infrastructure is predominantly containerized and distributed across multiple Kubernetes clusters, spanning development, staging, and production environments.

The ongoing pursuit of operational and financial efficiency revealed significant technical challenges:

- **Complex and Manual Right-Sizing:** Application sizing was manually managed by SRE/DevOps teams. Lacking continuous automated tuning tools and facing a large volume of pods, periodic reviews could not keep pace with rapid changes, resulting in CPU and memory overprovisioning.
- **Resilience and Uptime Requirements:** Mission-critical systems, such as the trading engine, require high stability and millisecond-level response times, demanding utmost caution during any capacity allocation changes.
- **Inefficiencies in Secondary Workloads:** Development environments, utility services, and low-criticality workloads were running on On-Demand instances, generating unnecessary daily costs.

The Solution: K8s Pod Rightsizing (ScaleOps) & Spot Optimization (Flexera Spot / Ocean)

Strengthening a long-standing partnership, Mercado Bitcoin relied on consultative and technical guidance from RealCloud to implement a combined approach of Kubernetes automation and capacity optimization:

1. Dynamic Automation with ScaleOps (K8s Pod Rightsizing)

The ScaleOps platform was connected to Mercado Bitcoin's clusters to automatically and continuously adjust CPU and memory Requests and Limits.

- **Frictionless Automation:** In development and staging environments, over 80% of workloads were quickly automated, reducing allocated vCPUs by approximately 40% without causing instability or impacting developer workflows.
- **Protection for Sensitive Applications:** High-criticality, low-latency workloads were identified and managed under specific policies, with zero observed operational impact.

2. Spot Instance Optimization (Flexera Spot / Ocean)

Orchestrated alongside RealCloud, the Spot instance strategy enabled migrating non-critical workloads, shared services, and dev environments to lower-cost pricing models.

- **Critical Workload Analysis:** In one evaluated case, a low-criticality workload was fully migrated to Spot instances, reducing its daily compute cost by approximately 74%.
- **Flexibility and Advanced Features:** Enabled Cost-Oriented VNGs, headroom adjustments, and leveraged ScaleOps' Replicas Downscaler feature for scheduled scale-downs of non-production environments.

Results & Benefits: Recurring Savings with Zero Operational Impact

Deploying these solutions alongside RealCloud delivered measurable efficiency gains:

- **Recurring Savings:** Workloads migrated to Spot instances achieved an approximate 74% reduction in compute costs, compounded by additional savings from right-sizing.
- **Resource Optimization (vCPU & Memory):** Automated clusters achieved an average reduction of 29% to 40% in allocated vCPUs and roughly 40% in allocated memory.
- **Engineering Transparency:** Pod right-sizing and node reallocations were completely transparent to engineering teams, with zero observed downtime.
- **Specialized Guidance:** Weekly rituals and checkpoints between MB's technical team and RealCloud specialists ensured continuous driver updates, resolution of vendor blockers, and sustained governance.

> *"We were able to automate right-sizing transparently for development teams without impacting deployments or business operations. In non-production environments, we cut allocated capacity by roughly 40%, and in one case, migrating to Spot slashed compute costs by over 70%."*
>
> — Alexandre Dedinho, Director of Engineering at Mercado Bitcoin

Conclusion & Next Steps

The partnership between Mercado Bitcoin and RealCloud highlights how intelligent automation and rigorous cloud architecture analysis unlock substantial financial efficiency while preserving the resilience and peak performance demanded by the digital assets market.

Mercado Bitcoin's Cloud Financial Management evolution journey continues to expand.

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About RealCloud

RealCloud is a leader in cloud management and optimization solutions, empowering organizations to achieve operational efficiency through cost reduction and performance enhancements. Supporting enterprises across financial services, retail, and various other sectors, RealCloud has helped clients save over US$ 400 million in cloud spend. Learn more at: realcloud.ai

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