MAIN.3.3. Tier III Data Center

Unstoppable Domains is committed to delivering resilient, highly available services by leveraging industry-leading cloud infrastructure and adhering to globally recognized standards for datacenter reliability. This document provides supporting evidence and architectural context for compliance with the requirement for at least two independent Tier III (or equivalent) datacenters, as defined by the Uptime Institute.

Overview

The registry platform is deployed on Google Cloud Platform (GCP), specifically within the `us-central1` region. GCP's infrastructure in this region is designed to meet stringent requirements for physical and logical separation, redundancy, and operational independence, ensuring that applications can withstand localized failures and continue to operate without interruption.

GCP us-central1 Region: Zonal and Datacenter Architecture

- The GCP `us-central1` region consists of four zones: `us-central1-a`, `us-central1-b`, `us-central1-c`, and `us-central1-f`.
- Each zone in `us-central1` is a physically distinct datacenter site, with independent power, cooling, and networking. In this region, there is a 1:1 mapping between zones and datacenter sites (note: this is not universally true for all GCP regions, but is confirmed for `us-central1`).
- All four zones are covered separately by Google's MTCS Tier III certification, which is recognized as equivalent to Uptime Institute Tier III (as confirmed by ICANN and industry precedent).
- GCPs MTCS certificate (attached) specifically lists the following as certified sites for, demonstrating geographic and operational diversity.:
    - Council Bluffs (1), IA
    - Council Bluffs (2), IA
    - Papillion, NE,
    - Omaha, NE

Fault Tolerance and Independence

By deploying critical application components across two or more Tier III datacenters, the platform ensures:

- **Physical and Logical Independence:** Each zone is isolated from failures in other zones, with no shared single points of failure for power, cooling, or network infrastructure.
- **No Inter-Dependencies:** Applications deployed in multiple zones are protected from correlated failures, as required by Tier III standards and the MAIN.3.3. control.

- **Continuous Availability:** In the event of a datacenter-level incident (e.g., power loss, fire, or cooling failure), services in other zones remain unaffected and continue to operate normally.

Certification and Compliance

- As part of the RSP application process, Unstoppable Domains made an inquiry to ICANN regarding Uptime Institute's Tier III standard compared to GCP's MTCS which provided clarification that the two standards are considered equivalent.
- Google's MTCS Tier III certification is publicly available and covers all relevant sites in the `us-central1` region. This certification is widely accepted as equivalent to Uptime Institute Tier III, meeting the requirements of MAIN.3.3.
- The registry platform's deployment model, combined with GCP's certified infrastructure, ensures that all regulatory and operational requirements for datacenter independence and fault tolerance are met or exceeded.

Future Growth

Unstoppable Domains' registry platform is intentionally architected for seamless scalability and geographic expansion. As demand increases or regulatory requirements evolve, the system can be extended into additional GCP regions within North America or globally, leveraging the same cloud-native, multi-zone deployment model. This approach ensures that future growth will maintain the same high standards of availability, compliance, and operational resilience established in the current architecture, while providing flexibility to adapt to emerging business and technical needs.

References

- Uptime Institute Tier Definitions
- Google Cloud Compliance Reports (MTCS Certificate)
- GCP Regions and Zones
- GCP Incident Example: Paris (europe-west9) Outage

Attachment:

- MTCS Tier III Certification PDF (download from here)

Conclusion

Through strategic deployment across multiple GCP `us-central1` zones — each a certified, independent Tier III datacenter — Unstoppable Domains ensures robust fault tolerance, regulatory compliance, and operational resilience. This architecture guarantees that the registry platform remains available and performant, even in the face of significant infrastructure failures, fully satisfying the requirements of MAIN.3.3.