

TIER III DATA CENTRES & BUSINESS CONTINUITY

Ensuring Zero Downtime
for Critical Enterprises



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EXECUTIVE SUMMARY

In today's digital-first economy, uptime is currency. From financial institutions to healthcare, telecoms, and government services, downtime not only disrupts operations but also erodes trust, revenue, and security.

Tier III Data Centres provide the balance between high availability, redundancy, and cost-effectiveness, ensuring that mission-critical enterprises in Zambia and beyond

achieve 99.982% uptime.

This white paper explores how INFRATEL's Tier III-standard Data Centres are redefining business continuity in Zambia by delivering secure, scalable, and always-on infrastructure.

INTRODUCTION

Every second of downtime can cost businesses millions in lost productivity, sales, and brand reputation. In Zambia, as enterprises increasingly digitise, reliable data centre infrastructure is not just a technical requirement but a national economic priority.

INFRATEL's Tier III-standard Data Centres address this need by offering redundant power, cooling, and connectivity systems, ensuring that operations continue seamlessly even during maintenance or unexpected disruptions.



UNDERSTANDING DATA CENTRE TIERS

The Uptime Institute, a globally recognized authority on data centre standards, classifies facilities into four distinct tiers. These tiers provide a benchmark for evaluating a data centre's reliability, redundancy, and ability to maintain continuous operations. Each level reflects the infrastructure's design, operational capability, and resilience against downtime.



Tier I – Basic Capacity

- ▶ **Description:** The entry-level classification, offering a simple infrastructure with limited redundancy.
- ▶ **Key Features:**
 - Single path for power and cooling.
 - Non-redundant critical components.
 - Typically 99.671% availability (about 28.8 hours of downtime annually).
- ▶ **Best For:** Small businesses or organizations that can tolerate occasional downtime and do not require 24/7 mission-critical operations.



Tier II – Redundant Capacity

- ▶ **Description:** Builds on Tier I with added redundancy for power and cooling systems.
- ▶ **Key Features:**
 - Single distribution path, but with redundant capacity components (UPS, cooling, generators).
 - 99.741% availability (about 22 hours of downtime annually).
- ▶ **Best For:** Medium-sized enterprises that need improved reliability but can still accommodate limited planned outages.



Tier III – Concurrently Maintainable

- ▶ **Description:** A significant upgrade that allows systems to be maintained or replaced without disrupting operations.
- ▶ **Key Features:**
 - Multiple power and cooling distribution paths (only one active at a time).
 - Redundant capacity components. Concurrent maintainability—systems can be serviced without taking the facility offline.
 - 9.982% availability (about 1.6 hours of downtime annually).
- ▶ **Best For:** Large enterprises, banks, telecom providers, and government institutions that require continuous availability for critical services.



Tier IV – Fault Tolerant

- ▶ **Description:** The highest level of data centre classification, ensuring continuous operations even in the event of a fault.
- ▶ **Key Features:**
 - Multiple active power and cooling distribution paths.
 - Full redundancy of all critical components (N+N or 2N).
 - Fault-tolerant infrastructure capable of withstanding unplanned disruptions.
 - 99.995% availability (about 26.3 minutes of downtime annually).
- ▶ **Best For:** Mission-critical operations such as stock exchanges, emergency services, or hyperscale cloud providers where downtime is unacceptable.



THE COST OF DOWNTIME

- ❖ Financial Impact – Downtime costs financial institutions millions due to failed transactions and compliance risks.
- ❖ Healthcare Impact – Interruptions delay patient care and jeopardize lives.
- ❖ Telecom & ISPs – Network outages cripple digital connectivity.
- ❖ Government & Public Services – Citizen trust erodes when e-government platforms fail.

A study by Gartner estimates the average cost of IT downtime at USD 5,600 per minute. For Zambian enterprises, avoiding downtime is not optional, it is survival.

WHY TIER III DATA CENTRES MATTER FOR ZAMBIA

- High Availability – With 99.982% uptime, critical services remain uninterrupted.
- Business Continuity – Redundant systems ensure disaster recovery and resilience.
- Regulatory Compliance – Financial and telecom regulators demand robust continuity frameworks.
- Scalability – Tier III centres support enterprise growth without compromising uptime.
- Trust & Reputation – Reliable infrastructure strengthens customer and citizen confidence.

INFRATEL'S TIER III ADVANTAGE

As Zambia's premier ICT infrastructure provider, INFRATEL delivers Tier III Data Centre services with:

- Redundant Power Supply – Dual power feeds, UPS systems, and backup generators.
- Robust Cooling Systems – Concurrently maintainable cooling paths to prevent overheating.
- Carrier-Neutral Connectivity – Multiple fibre routes ensuring uninterrupted connectivity.
- Advanced Security – 24/7 monitoring, biometric access, and SOC integration.
- Localised Hosting – Data sovereignty by keeping critical data within Zambia.
- Flexible Solutions – Colocation, cloud, and disaster recovery services for SMEs and large enterprises alike.

CASE STUDIES: ZERO DOWNTIME IN ACTION

- ▶ Banking Sector – A Tier III-hosted core banking system ensures 24/7 transaction processing.
- ▶ Healthcare – Hospitals leverage INFRATEL's data centres for uninterrupted e-health systems.
- ▶ Government – E-Government platforms operate seamlessly with secure local hosting.
- ▶ ISPs & Telecoms – INFRATEL's redundant backbone ensures customer connectivity even during disruptions.

FUTURE OUTLOOK

With Zambia advancing towards a knowledge-based economy, uninterrupted digital infrastructure is vital. Tier III Data Centres will play a pivotal role in enabling fintech innovation, digital health, e-learning, and smart government services.

INFRATEL's investment in resilient infrastructure positions Zambia to become a regional digital hub, attracting multinational enterprises that require world-class continuity solutions.

CONCLUSION & CALL TO ACTION

Downtime is no longer an inconvenience, it is a threat to survival. By investing in INFRATEL's Tier III Data Centres, enterprises in Zambia can guarantee business continuity, regulatory compliance, and customer trust.

Reinvent Business with INFRATEL

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