TERACO™
DATA ENVIRONMENTS

datacentrix

WHITEPAPER

THE 9 DATA CENTRE TRENDS **DRIVING DIGITAL TRANSFORMATION.**

INTRODUCTION

Digital transformation is not just a common tech catchphrase, it is a critical topic for business leaders around the world. A global survey by **McKinsey** found that more than eight in ten respondents said their organisations had undertaken digital transformation projects in the past five years.

But what does it mean, and why is it essential for companies?

Businesses looking to start their digital transformation journey need to have a solid understanding and appreciation of the different concepts and approaches. With in-depth knowledge, companies can take their digital transformation beyond IT to make a lasting, positive impact on business performance.

No digital transformation is complete without the support of data centres, which have evolved to support the demands of modern-day computing requirements. Their wide range of services are no longer only a reserve of the largest companies but are now easily accessible by all businesses. This whitepaper looks at nine key data centre trends that are driving digital transformation.

WHAT IS **DIGITAL TRANSFORMATION?**

Digital transformation is the process of using digital technology as a platform to create new or change existing business processes and the customer experience to meet rapidly evolving business and market requirements.

Digital transformation focuses on how you think about and engage with your stakeholders. The primary objective is the realignment of value for employees, customers, and other stakeholders.

This is why many experts within the field agree that digital transformation involves building a better stakeholder experience using innovative digital technology.

WHY IS DIGITAL TRANSFORMATION IMPORTANT FOR THE ENTERPRISE?

Businesses take on digital transformation projects to thrive in the modern business environment. In the **IDC worldwide semi-annual Digital Transformation Guide,** experts pointed out that the global spending on services and technologies that are enabling digital transformation would reach $1.97 trillion in 2022. What's more, the **World Economic Forum** advises that the value of digital transformation for both industry and society could reach $100 trillion by 2025.

The benefits of digital transformation can include:

- Eliminating time-consuming manual process via business process automation
- Increased customer satisfaction through improved customer experiences
- Improved and efficient decision-making through real-time data collection
- Increased flexibility and scalability
- Enhanced reliability and reduced risk

One of the effects of Covid-19 is that it has forced companies to fast-track their digital transformation plans. As the CEO of Microsoft, Satya Nadella, put it when delivering Microsoft's last quarterly earnings report, "We've seen two years' worth of digital transformation in two months. From remote teamwork and learning to sales and customer service, to critical cloud infrastructure and security."

WHY ARE DATA CENTRES ESSENTIAL IN DRIVING THE ENTERPRISES' DIGITAL TRANSFORMATION?

According to **Data Center Knowledge,** annual global IP traffic will reach a massive 3.3ZB, which will move over fixed networks between data centres as well as from data centres to devices and back. What's more, between 2017 and 2022, the global IP traffic was forecast to triple, and we are well on target to achieve this prediction. These figures show the scale of data that the world is generating and are a crucial indicator of the size of the physical data centre infrastructure required to support this growth.

As the digital age evolves, IT infrastructure and data centres will have to adapt rapidly. Those companies that still rely on legacy equipment and facilities will lose ground to burgeoning digital native companies. The growing data centre footprint in Africa is providing a valuable building block to companies' ability to change and face digital disruption head-on as an opportunity.

THE 9 DATA CENTRE TRENDS
DRIVING DIGITAL TRANSFORMATION

1. PUBLIC CLOUD SERVICES

In **Cisco's Global Cloud Index,** 2015-2020, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), and Infrastructure-as-a-Service (IaaS) are the three main cloud service categories trending in 2020. According to the index, SaaS workloads maintained majority share throughout the five-year forecast with a 74% share by 2020. PaaS has the second-fastest growth with a predicted 8% workload share.

Public SaaS solutions have become more robust and sophisticated, which has attracted larger enterprises starting with less-critical services and carefully weighing the benefits of adopting public cloud services (such as scalability, cost optimisation, consistency, etc.) against the risks (business continuity, security, data integrity, etc.).

The adoption of cloud computing is being driven by industries such as financial services adopting public cloud platforms; and the deployment of advanced next-generation networks by telecommunications operators.

Cloud computing offers economies of scale that can dramatically reduce the cost to end-users. The use of shared data centre facilities, also known as multi-tenant data centres, improves efficiencies in infrastructural use as users effectively only pay for what they use.

The entry by large Public Cloud Infrastructure providers such as Microsoft Azure, Amazon Web Services and Huawei into the African market as well as recent public announcements by Oracle has changed the cloud conversation from that of the relevance of cloud to the reality that of a real offering that is relevant in the African market.

2. HYBRID CLOUD

The dawn of public cloud services saw many companies jump in with both feet, re-architecting and migrating legacy systems and networks into the cloud.

Many enterprises, however, found that operating purely in a cloud environment had some unexpected pitfalls; unforeseen expenses, network connection dependency, loss of control and security concerns. As a result, most companies are now adopting a hybrid cloud strategy. They have opted to retain specific processes within a private cloud deployment housed in a highly available colocation facility, while other operations are migrated into public cloud infrastructure.

Adopting **hybrid cloud architecture** enables companies to take advantage of both public and private cloud networks. This choice of cloud architecture allows companies to take advantage of the benefits of the public cloud, yet still, ensure the security and control of their data.

Hybrid cloud is now the most common cloud deployment strategy, allowing the enterprise to use the best of both public and local private cloud services.

To date, data centre requirements have largely been served by on-premise or carrier facilities with the inherent vendor lock-in. The advent of the multi-tenant data centre and the neutral position of these facilities goes hand in hand with the freedom of choice associated with a hybrid cloud strategy. World-wide enterprises have shifted to obtaining colocation services from a data centre provider that has total neutrality.

3. CLOUD ON-RAMPS

One of the most significant barriers to cloud adoption is data security and connectivity issues caused by the public Internet (think network congestion, outages and other problems that may affect network performance). Today, businesses realise the benefits of leveraging and accessing cloud on-ramps directly to bypass the public Internet in favour of more secure and private connections.

For an enterprise looking to migrate some or all of their IT operations to the cloud, carrier-neutral data centres that host key cloud on-ramps offer an attractive platform to support digital transformation efforts by providing secure, direct, flexible network connections to a wide range of local and global cloud service providers.

Enterprises use cloud on-ramp platforms to deploy hybrid and multi-cloud strategies by colocating their network infrastructure directly adjacent to the on-ramps. A cloud on-ramp platform improves enterprise hybrid and multi-cloud performance through direct interconnection – enabling enterprises to do more in the cloud by providing secure, direct, flexible network connections to a wide range of local and global cloud service providers. Using an interconnected network architecture approach allows enterprises to improve cloud application performance, reduce latency, scale on-demand, lower network costs, and visibly deliver a better cloud experience to end-users.

Major public cloud providers like **AWS, Azure** and **Huawei** have partnered with local colocation providers to offer enterprises the ability to connect directly with public cloud instances. These dedicated cloud regions offer local interconnection, consistent network performance, improved security and reduced bandwidth costs.

Reliable and predictable network performance are essential ingredients for the successful implementation of a hybrid or multi-cloud strategy, as applications are required to operate seamlessly between private and multiple public cloud environments. The recent deployment of Microsoft Azure in South Africa has improved the latency for Azure to as low as 2ms locally.

4. COLOCATION

Companies are increasingly considering **colocation services** from a multi-tenant data centres an ideal solution for their IT infrastructure due to the escalating costs of building a private data centre as well as the versatility offered by commercial data centres. Modern data centres are gateways to the connectivity and digital services platform; offering businesses access to every digital service imaginable.

Colocation is no longer just about renting floor space. It offers organisations the ability to leverage data centres' enhanced power and cooling capabilities to reduce ongoing infrastructure costs.

Demand for colocation services in Africa is being driven by improving connectivity levels and the rising volumes of intercontinental data traffic.

5. INTERCONNECTION PLATFORM

As the demand for digital services grows, the need to build digital architectures that support real-time interactions spanning multiple key business partners is essential. By colocating within interconnection ecosystems found in vendor-neutral data centres, enterprises today can provision dedicated, high-speed cross-connects between partners, service providers and networks to create a faster and more efficient end-user experience for their customers.

Interconnection lowers the barrier of entry to new market opportunities while simultaneously solving critical performance challenges such as latency and security, as well as amplifying existing capabilities. The result is a seamless connection between people, locations, clouds and things which is vital in driving digital transformation technologies such as Big Data, Artificial Intelligence (AI) and the Internet of Things (IoT).

The ability for enterprises to access local and global markets via an interconnection platform is critical in the connected world we live in today. Cloudscene, the world's largest connectivity directory for colocation data centres, Cloud Service Providers (CSPs), and network fabrics, provides **rankings** and insight into who the major interconnection players are worldwide.

Enterprises deploying in a colocation facility that has a robust and dense ecosystem interconnection platform will find that it allows for the configuration of flexible and scalable interconnections to networks and upstream service providers. Ideally, an enterprise would wish to have direct access to partner ecosystems that are needed to accelerate growth. Connection to a community of cloud providers, network operators and global content providers in a neutral data centre environment is key.

6. PEERING AND CONTENT AGGREGATION

In today's broadband market of exploding traffic volumes, enterprises, network operators, CDN's and cloud services providers peer to exchange their Internet traffic. The advantages of Internet exchange points include:

- Facilitating high-speed data transfer;
- Reducing latency;
- Providing network fault tolerance;
- Reliable exchange of traffic;
- Increased routing control;
- Improved performance

Bringing content and cloud to local shores has reduced the transit reliance on 'fetching' the content in Europe and the Americas. Global content providers such as **Amazon, Google, Facebook, Microsoft and Netflix** have deployed in the region to improve the availability of their content to the end-user by bringing the content closer to the user.

Peering exchanges are a sign of the 'opening' up of the digital ecosystem. The number of Internet exchanges in Africa has grown in the past ten years from 17 to 46 today, with a presence in 34 countries across the continent.

7. DATA PROTECTION AND COMPLIANCE

With the advent of regulations around data protection globally, the data centre industry has needed to embrace laws such as the Protection Of Personal Information Act (POPI) and the European General Data Protection Regulation (GDPR).

These are regulations which **address data** protection , privacy and the transfer of personal data. POPI, GDPR and a focus on security has led to enterprises seeking data centre providers that have installed robust physical security and obtained appropriate certifications which include: security standards (ISO 27000), quality management systems compliance (ISO 9000) and financial security standards (PCI DSS – Process Card Industry Data Security Standard).

8. DATA CENTRE AND POWER UPTIME

In this highly connected world, the uptime of applications is paramount to the functioning of any enterprise.

Data centres are a real solution to unreliable power supply as colocation providers will provide SLA guarantees linked to the services offered. Data centres deploy resilient power infrastructure that allows the facility to continue operating in the absence of utility power thereby providing environments suitable for crucial applications requiring 100% uptime. World-class data centre facility operators provide uptime guarantees of 99.999%, which equates to some 5min, 15 seconds of allowable downtime per year.

9. HYPERSCALE DATA CENTRES

As the demand for cloud computing solutions increases, so does the need for the supporting large scale data centre infrastructure. Hence, the rise of **hyperscale data facilities** that are substantially larger than the average enterprise data centre. At the end of 2019, **over 500 data centres** globally met the minimum classification threshold required of a hyperscale facility.

The hyperscale data centre has emerged as the physical platform fueling digital transformation, reshaping the global and African IT landscape and shifting data from on-premises facilities to massive centralised data centre hubs.

THE **BOTTOM LINE**

The data centre trends discussed above are changing the digital transformation landscape significantly. In the not-so-distant past, many of these facilities were an exclusive reserve of large companies. However, technology demand and advancements have made it possible for smaller organisations to have access to these facilities where they can provide their products and services more effectively.

ABOUT TERACO™
DATA ENVIRONMENTS

Teraco provides carrier and cloud-neutral colocation data centres, and withan ecosystem of over **18,000 cross-connects,** which is growing at 20% per annum, is Africa's most interconnected data centre hub. As the first provider of highly resilient, vendor-neutral data environments in sub-Saharan Africa, Teraco brings global content closer to the digital edge.

With its world-class data centre infrastructure and network dense ecosystems, Teraco forms a vital part of the African Internet's backbone and is an essential part of the modern enterprise's digital transformation strategy. It's ever-expanding ecosystems move Teraco beyond colocation and firmly establish it as an open marketplace for digital growth and innovation.

Discovering new business partners, making strategic interconnection choices, on-ramping to your choice of cloud, and reaching new markets globally – Teraco provides a highly secure, flexible and resilient home for digital organisations the world over.

Purpose-built and operated to global best practice by an expert organisation with an absolute focus on data centre technology and infrastructure, Teraco offers all its clients secure, cost-effective, sustainable, scalable and resilient data centre services through its Johannesburg, Durban and Cape Town facilities.

CONTACT US TODAY TO LEARN MORE ABOUT WHAT TERACO CAN DO FOR YOU.