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CLOUD ALPHA EDGE (CAE): THE NATIONAL PLATFORM ADVANCING DIGITAL RESILIENCE

For large enterprises and the public sector, cloud computing has become a strategic foundation for service delivery, data governance and operational resilience across large enterprises and the public sector. As digitalisation accelerates, the question is no longer whether to adopt cloud but how to do so while preserving sovereignty, security and legal control.

The MyDIGITAL Blueprint recognises cloud as a critical national enabler alongside broadband networks, data centres and submarine cables. In 2025, Malaysia reinforced this priority through the introduction of the National Cloud Computing Policy, which aims to accelerate cloud adoption while strengthening governance, security and compliance requirements. Together, these initiatives signal a clear policy direction: digital infrastructure must evolve in step with national safeguards and legal accountability.

The stakes are significant. Public sector platforms manage sensitive citizen data, fiscal systems, healthcare records and national security information. Regulated industries such as banking, financial services and insurance (BFSI), utilities and telecommunications operate under strict frameworks, including the Personal Data Protection Act (PDPA) and Bank Negara Malaysia's Risk Management in Technology (RMiT) guidelines. In this environment, reliance on offshore hyperscale platforms may introduce legal, operational and geopolitical exposures that organisations must carefully manage.

Sovereign cloud addresses these concerns by ensuring data residency, jurisdictional authority and security governance remain within national boundaries. It allows organisations to harness the scalability and agility of cloud technologies while maintaining compliance, accountability and strategic autonomy.

Cloud Alpha Edge: A Sovereign Cloud Built for Malaysia

Cloud Alpha Edge (CAE) is our sovereign cloud platform, developed, managed and operated by Credence, the cloud and digital services arm. It is designed to deliver high assurance for data protection, operational resilience and regulatory compliance.

At its core, CAE is defined by four (4) principles:

1. **Data Residency and Control**
   All data hosted on CAE is stored and processed exclusively in TM-owned Tier III data centres in Malaysia. Data does not transit or replicate outside the country. This ensures compliance with domestic regulations, while removing exposure to foreign surveillance laws or extraterritorial legal claims.

2. **Legal Jurisdiction**
   Data hosted on CAE remains subject solely to Malaysian law. This provides clarity and assurance for public sector and regulated workloads, where accountability, audit rights and legal jurisdiction are essential.

3. **Operational Authority**
   The cloud infrastructure, platform management and security operations are owned and operated locally. Malaysian teams manage access, monitoring and recovery protocols, ensuring transparency and accountability. For Government customers, this includes exclusive ownership of the Hardware Security Module (HSM), securing cryptographic keys for high-security environments.

4. **Security by Design**
   CAE incorporates multiple layers of protection-layered security controls, including private cloud architecture, air-gapped environments for sensitive workloads, encryption with customer-owned keys and continuous monitoring through our Cyber Defence Centre. The platform is aligned with SOC 2 Type 1 assurance standards and national cybersecurity governance frameworks.

Together, these principles ensure that CAE delivers more than a cloud service that goes beyond physical data localisation, addressing the full lifecycle of trust, control and governance.

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Infrastructure Designed for Performance and Resilience

CAE operates across multiple in-country Availability Zones, enabling latency of under two (2) milliseconds for domestic users and supporting active-active resilience for mission-critical systems. This architecture supports real-time digital services such as financial platforms, emergency response systems and national digital applications where reliability and response times are critical.

The platform is modular and scalable, supporting Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and specialised workloads without requiring heavy upfront investments. CAE also avoids foreign exchange exposure and international data egress charges, allowing organisations to manage costs with greater predictability.

TM's nationwide fibre networks and protected data centre facilities reinforce CAE's reliability – integrating network, compute and security infrastructure that cannot be easily replicated through offshore cloud arrangements.

Operational Impact: From Policy to Service Delivery

CAE supports high-impact use cases across the public sector and national digital platforms.

National Data Platforms

Government initiatives increasingly rely on integrated data platforms to analyse information across ministries and agencies. Hosting these platforms in Malaysia ensures that sensitive information remains subject to domestic law while enabling near real-time analytics to support evidence-based policymaking and programme delivery.

Education Services at National Scale

CAE has supported national education platforms during major peak events. In one (1) deployment, over 4.5 million Sijil Pelajaran Malaysia (SPM) results were accessed within 15 minutes. This demonstrates the platform's ability to maintain service reliability under nationwide demand.

Public Sector Digital Learning

Government training platforms have also been migrated from on-premises environments to CAE, expanding capacity to support more than 10,000 learners per day. This transition improved system resilience, reduced downtime and enabled data-driven insights into training outcomes while maintaining compliance with national data security requirements.

Supporting Economic and Digital Transformation

Malaysia's cloud ecosystem is projected to reach approximately USD15 billion by 2032, expanding at a compound annual growth rate of about 14.6% between 2025 and 2032[1]. Realising this economic potential, advances national priorities alongside commercial innovation.

CAE contributes directly to MyDIGITAL Strategic Thrust 3, which focuses on building resilient, secure and future-ready digital infrastructure. By enabling organisations to scale digital services, harness advanced analytics and prepare for AI-driven applications, sovereign cloud platforms help ensure that innovation proceeds without compromising national sovereignty or data integrity.

For investors and regulators, sovereign cloud infrastructure reduces regulatory uncertainty, strengthens operational resilience and supports long-term value creation from digital infrastructure investments.

As Malaysia accelerates its digital transformation journey, sovereign cloud will play an essential role in enabling secure innovation and sustained economic growth. Through CAE, we reinforce our aspiration to become a Digital Powerhouse by 2030, with infrastructure at scale, governance discipline, and technological advancement, all grounded in national trust.

[1] *DataBridge Malaysia Cloud Service Market to 2032*