The Value of Network as a Service (NAAS)

etisalat and

Redefining the Legacy Networks

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Executive Summary

Network infrastructure is being radically redefined. Enterprises are moving away from rigid, hardware-heavy models and turning to agile, service-based architectures that match the pace of cloud, AI and hybrid work. This is where Network as a Service (NaaS) comes in — offering scalable, on-demand and programmable connectivity designed around business outcomes rather than bandwidth alone. With rising demand for cost control, security and flexibility, NaaS is fast becoming a foundation of enterprise digital transformation. At the same time, global technology groups such as e& are evolving their role — not just managing networks, but delivering them as platforms. In this white paper, we explore why NaaS is gaining momentum, how it works, and what makes e&'s approach distinct in a rapidly changing ecosystem.

Network as a Service (NaaS) offers a transformative solution, shifting network consumption from a capital-intensive model of owning and managing hardware to a flexible, cloud-delivered, subscription-based approach focused on business outcomes. NaaS empowers organisations to achieve the network capabilities they need – including enhanced **manageability**, unprecedented **agility**, greater **flexibility**, and improved **resilience** – without the complexities and costs associated with building and maintaining their own infrastructure. This allows IT teams to focus on strategic initiatives rather than routine maintenance, accelerates service deployment, optimises costs through OpEx models, and strengthens overall security posture.

NaaS designed to help organisations navigate this complex landscape and future-proof their networks. Leveraging global standards (MEF), advanced automation, and a comprehensive suite of managed services including SD-WAN and SASE capabilities, Managed WiFi, monitoring as a service, network assurance as a service & more.

The essential for network transformation

This relentless pace of change, while unlocking immense opportunities for innovation and growth, simultaneously exerts significant pressure on core business operations and, critically, the underlying network infrastructure that supports them. The network, once viewed primarily as a utility for basic connectivity, has become the central nervous system of the modern digital enterprise, indispensable for accessing cloud esources, enabling data-driven insights, facilitating seamless collaboration, and delivering exceptional customer experiences. However, many organisations find themselves constrained by traditional, legacy network architectures that were designed for a different era – an era defined by centralised data centres, predictable traffic patterns, and a clearly defined network perimeter.

These legacy networks, often characterised by rigid hardware-centric designs, complex manual management processes, and inherent scalability limitations, increasingly represent a significant bottleneck, hindering an organisation's ability to adapt, innovate, and compete effectively in today's demanding environment. They struggle to cope with the sheer volume, velocity, and variety of data generated by modern applications and devices. They lack the agility required to rapidly deploy new services or connect new locations.

Network as a Service (NaaS) offers a clear and compelling path forward,

providing a transformative approach to network infrastructure consumption that directly addresses the shortcomings of legacy systems. NaaS represents a paradigm shift, moving away from the capital- intensive model of owning and managing physical network hardware towards a flexible, cloud-delivered, subscription-based model focused on delivering desired business outcomes. The purpose of this document is to articulate the significant value proposition of NaaS, exploring how its inherent benefits – particularly enhanced manageability, agility, flexibility, and resilience – empower businesses to overcome modern challenges.

The modern business challenge: A perfect storm of demands

The imperative for network transformation is not driven by abstract technological trends alone, but by a confluence of concrete, pressing challenges that define the modern business environment. Organisations today operate within a perfect storm of demands, where technological acceleration intersects with economic pressures, geopolitical shifts, and evolving societal expectations. Understanding these challenges is crucial to appreciating why traditional network infrastructures are no longer sufficient and why a new approach like Network as a Service (NaaS) is becoming essential.

The escalating cybersecurity threat

The imperative for network transformation is not driven by abstract technological trends alone, but by a confluence of concrete, pressing challenges that define the modern business environment. Organisations today operate within a perfect storm of demands, where technological acceleration intersects with economic pressures, geopolitical shifts, and evolving societal expectations. Understanding these challenges is crucial to appreciating why traditional network infrastructures are no longer sufficient and why a new approach like Network as a Service (NaaS) is becoming essential.

Rapid technological advancement and integration.

Innovations in AI, machine learning, edge computing, and quantum computing are constantly reshaping industries and creating new competitive dynamics. While adopting these technologies is vital for staying relevant, integrating them effectively and securely with existing systems presents a significant hurdle. Many organisations are burdened with legacy applications and infrastructure that are incompatible with modern tools and platforms. This necessitates building flexible, scalable, and often complex hybrid architectures.

The rise of increasingly autonomous AI systems further complicates this picture, demanding not only robust connectivity but also new workflows, management paradigms, and skillsets to harness their potential safely and effectively.

Geopolitical instability and supply chain disruptions.

Global tensions, trade restrictions, export controls, and a growing push for technological sovereignty are fragmenting global markets and disrupting established supply chains. Businesses, especially those reliant on global manufacturing and distribution, face increased risks and uncertainties. This environment necessitates greater supply chain resilience, often requiring diversification of suppliers and manufacturing locations, which in turn places new demands on network connectivity and security to link dispersed operations reliably.

Sustainability and energy consumption

These have also emerged as critical business considerations. The digital infrastructure powering modern economies, particularly data centres driven by AI and large-scale computing, consumes vast amounts of energy. Businesses face increasing pressure from regulators, investors, and customers to reduce their environmental impact and carbon footprint. This translates into a need for more energy-efficient network hardware and data centre technologies, optimised operations, and potentially relocating infrastructure to regions with cleaner energy sources or less vulnerability to climate-related risks like extreme weather events, all of which have network implications.

Persistent talent gaps and the need for continuous upskilling.

There is a well-documented shortage of professionals possessing the specialised skills required to design, implement, manage, and secure modern network infrastructure, particularly in high-demand areas like cybersecurity, cloud networking, and AI/data science. Legacy systems often require niche expertise that is dwindling, while new technologies demand constant learning. Organisations must invest heavily in training their existing workforce, competing for scarce talent, and leveraging automation and managed services to bridge the skills gap.

The evolving regulatory and compliance landscape

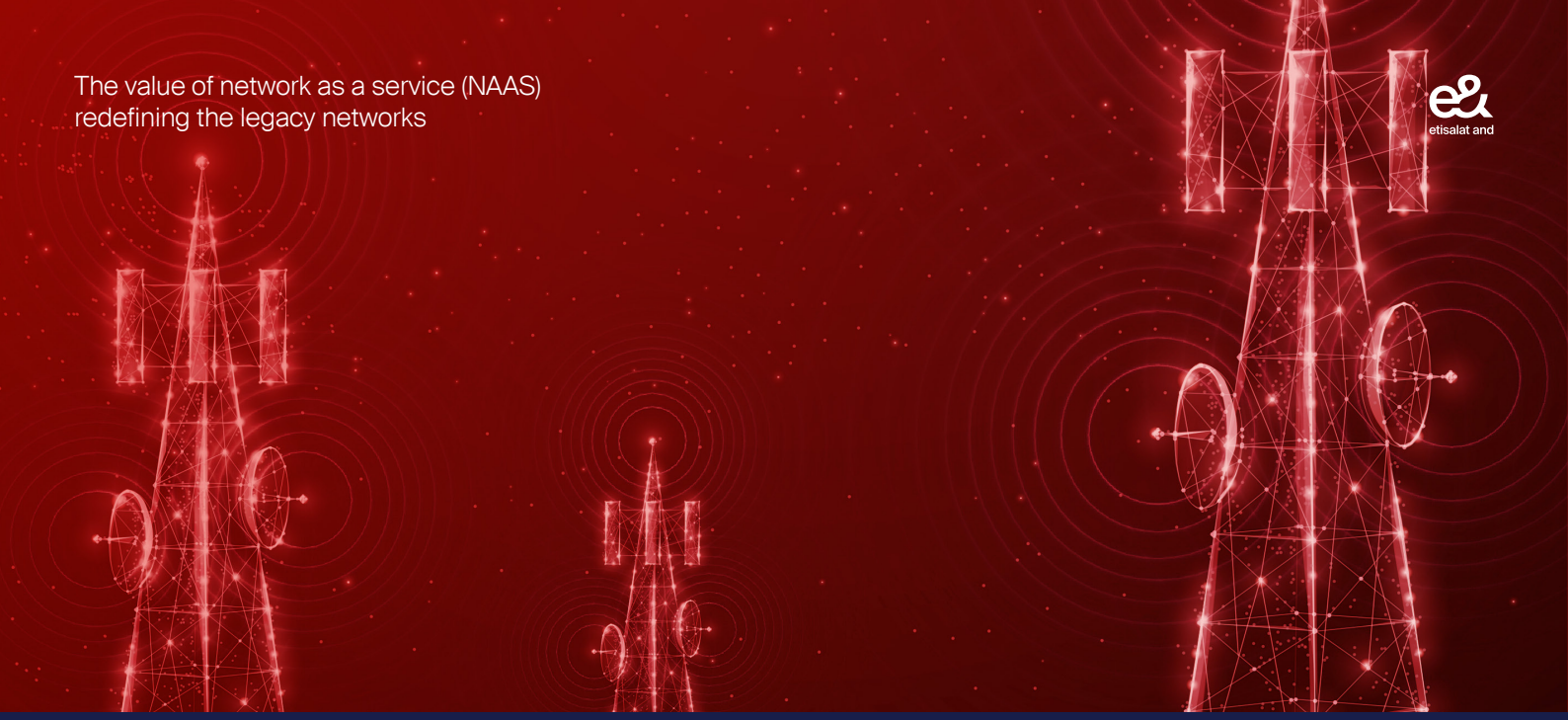
This adds further complexity. Rapid technological change frequently outpaces the development of legal and regulatory frameworks, particularly concerning data privacy (like GDPR), AI ethics, and cross-border data flows. Businesses must operate within a complex web of varying international, national, and industry-specific regulations, requiring network and security solutions that can enforce policies consistently and provide the necessary audit trails for compliance.

By 2027, 70 per cent of enterprises will adopt cloud-native networking to support digital and AI workflows—spanning on-premises, edge, and multicloud environments.

Finally, businesses operate under persistent economic headwinds and funding pressures.

Despite long-term technological optimism, factors like inflation, rising interest rates, and cautious investment climates demand a strong focus on cost optimisation and demonstrating a clear return on investment. IT departments are under pressure to do more with less, shifting spending from maintaining legacy systems to driving innovation and proving the value of technology investments.

Collectively, these challenges create an environment where the network is more critical than ever, yet simultaneously under unparalleled strain. Businesses require a network infrastructure that is not just reliable, but also inherently secure, highly scalable, exceptionally agile, cost-effective, and capable of supporting seamless integration across a complex ecosystem of users, devices, applications, and clouds. It is precisely this need that legacy networks struggle to meet, paving the way for the transformative potential of NaaS.



The legacy bottleneck: Why traditional networks can’t keep up

Faced with the relentless demands of the modern digital landscape, traditional network infrastructures, often referred to as legacy networks, represent a significant and growing bottleneck for many organisations. These networks, typically built years or even decades ago

using architectures and technologies designed for a simpler, more predictable era,

fundamentally lack the capabilities required to support today’s dynamic business operations. Research and analysis from industry experts consistently highlight the inherent limitations of these aging systems, revealing why they are increasingly inadequate and act as a barrier to progress, innovation, and competitiveness.

A primary failing of legacy networks lies in their inability to meet modern performance demands.

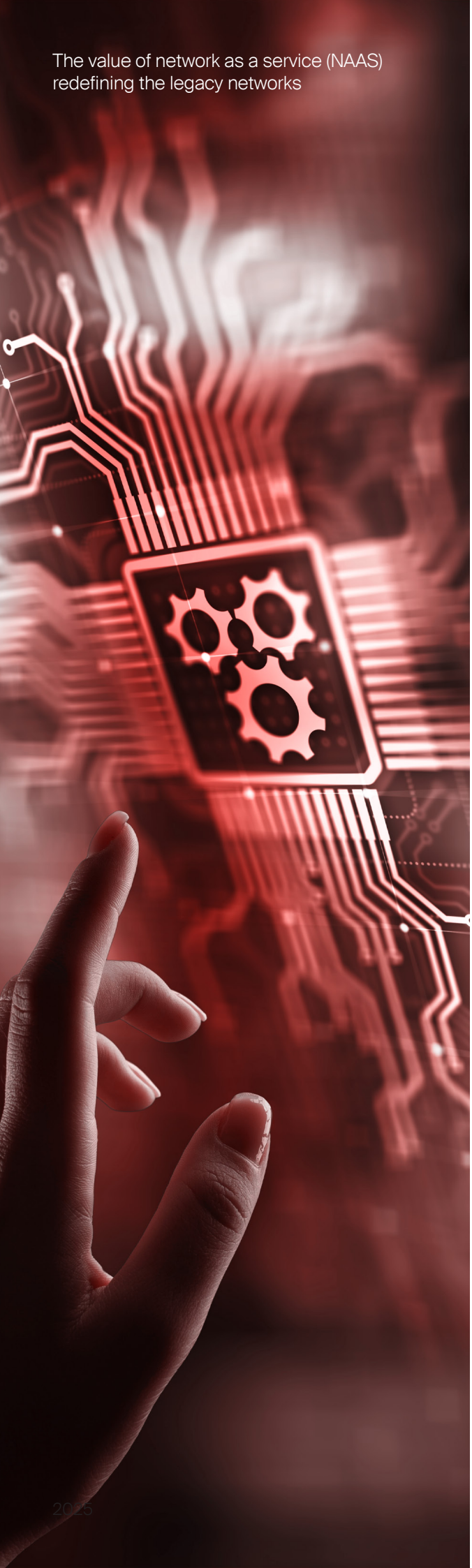
Designed primarily for connecting users within fixed locations to centralised data centres, they often struggle with the sheer volume and diverse nature of traffic generated by cloud applications, SaaS platforms, IoT devices, video conferencing, and AI workloads. Insufficient bandwidth capacity, high latency due to inefficient routing paths (often involving backhauling traffic through a central point), and frequent bottlenecks lead directly to poor application performance, frustrating user experiences, and even network downtime. As businesses become more reliant on real-time data and cloud-based services, these performance constraints translate directly into lost productivity and diminished customer satisfaction.

Beyond performance, legacy networks impose a significant financial burden through high maintenance costs and accumulating technical debt.

A substantial portion of IT budgets, sometimes as much as half according to studies cited by Forbes and Accenture, is consumed simply keeping these outdated systems operational. This includes managing aging hardware prone to failure, applying patches to unsupported software, and employing staff with increasingly scarce specialised skills needed to manage proprietary equipment. This constant drain on resources diverts funds and attention away from strategic initiatives and innovation. Furthermore, clinging to outdated infrastructure creates substantial technical debt, making future upgrades or integrations progressively more complex and expensive, effectively mortgaging the organisation's technological future.

The inherent lack of agility and flexibility

is another critical limitation. Legacy networks are typically characterised by rigid, hardware-defined architectures. Making changes, such as provisioning services for a new branch office, increasing bandwidth, implementing new security policies, or integrating new technologies like SD-WAN or cloud interconnects, often involves complex, manual configuration processes that are time-consuming, error-prone, and expensive. This operational rigidity severely hinders a business's ability to respond quickly to market opportunities, adapt to changing requirements, or roll out new digital services at the speed demanded by the modern market.



Integration challenges

Further compound the problem. Legacy systems were often built in silos and frequently use proprietary protocols, making it difficult and costly, if not impossible, to integrate them seamlessly with modern cloud platforms, SaaS applications, and other digital tools. Thisvlack of interoperability leads to the creation of data silos, where valuable information is trapped within specific systems or departments, hindering collaboration and data-driven decision-making. It prevents organisations from adopting best-of-breed solutions or creating unified workflows across their digital ecosystem.

From a security perspective, legacy networks present increased security vulnerabilities

Outdated hardware and software may no longer receive security updates from vendors, leaving them exposed to known exploits. Their traditional perimeter-focused security models are ill-equipped to handle the dissolved boundaries of modern IT, where users, devices, and applications are distributed across various locations and clouds. Implementing modern security frameworks like Sero Trust or Secure Access Service Edge (SASE) on legacy infrastructure is often impractical, leaving the organisation vulnerable to sophisticated cyberattacks targeting an ever-expanding attack surface.

Scalability issues

are also endemic to legacy networks. Expanding capacity or extending the network to new locations often requires significant upfront investment in new hardware, complex physical installations, and potentially disruptive network downtime.

The underlying architecture may simply not be designed for elastic scaling, meaning that accommodating business growth or even temporary surges in demand can lead to performance degradation or necessitate costly and time-consuming forklift upgrades.

Finally, the reliance on legacy systems exacerbates the skills gap and can introduce compliance risks.

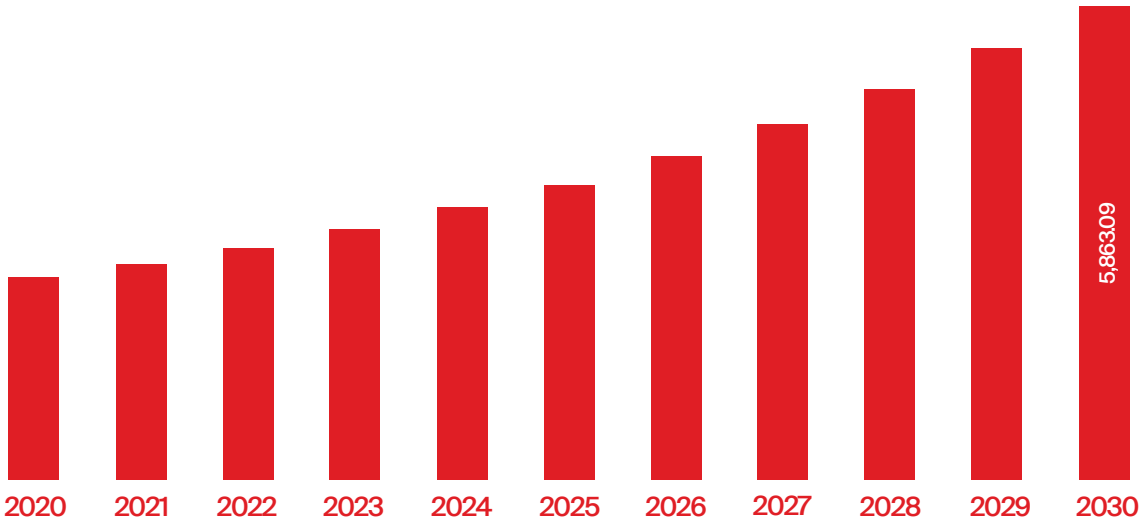
Managing complex, often vendor-specific legacy equipment requires specialised knowledge that is becoming harder to find as the workforce evolves. Simultaneously, these older systems may lack the necessary capabilities or audit trails to meet the stringent requirements of modern data protection and privacy regulations, such as GDPR, potentially exposing the business to hefty fines and reputational damage.

In conclusion, legacy network infrastructure, burdened by performance limitations, high costs, inflexibility, integration barriers, security weaknesses, and scalability challenges, acts as a fundamental obstacle to achieving digital transformation goals. It prevents businesses from fully leveraging the power of cloud, AI, and other modern technologies, ultimately hindering their ability to compete and thrive in the contemporary digital economy. The need for a more modern, agile, and outcome-focused approach is undeniable.

Network as a service (NAAS): A flexible, outcome-oriented approach

In direct response to the limitations of legacy infrastructure and the demands of the modern digital era, Network as a Service (NaaS) emerges as a transformative and strategically advantageous model for network consumption. Fundamentally, NaaS represents a paradigm shift, moving away from the traditional approach of purchasing, deploying, and managing physical network hardware (a capital expenditure or CapEx-heavy model) towards consuming network infrastructure and associated services through a flexible, cloud-delivered, subscription-based framework (an operating expenditure or OpEx-centric model). NaaS allows organisations to achieve the network performance, security, and capabilities they require without the burdens of ownership, construction, or direct maintenance of the underlying infrastructure.

Middle East & Africa Managed Network Services Market to 2030 (US$ Million)



The core value proposition of NaaS lies in its focus on delivering business outcomes rather than just network components. Instead of procuring routers, switches, and firewalls, businesses subscribe to connectivity, security, and application delivery services tailored to their specific needs.

The NaaS provider takes responsibility for owning, managing, upgrading, and ensuring the performance of the complex underlying infrastructure, allowing the customer's internal IT teams to redirect their focus from routine operational tasks to more strategic initiatives that drive business value. This outcome-oriented approach unlocks significant advantages across several key dimensions:

Enhanced Manageability and Simplicity

NaaS dramatically simplifies network operations. The complexities associated with procuring hardware from multiple vendors, managing disparate configurations, performing manual updates and patches across geographically dispersed locations, and handling equipment lifecycles are abstracted away and handled by the provider. Customers typically interact with the network through a centralised, software-driven platform – often a self-service portal or via Application Programming Interfaces (APIs). This provides a single pane of glass for managing network policies, monitoring performance, provisioning services, and overseeing security, significantly reducing operational overhead and complexity. Automation, a key tenet of many NaaS offerings, further streamlines tasks like onboarding new users or sites, implementing policy changes, and responding to network events.

Unprecedented Agility

The software-defined and cloud-native nature of NaaS imbues networks with remarkable agility. Businesses can provision new network services, connect new locations, scale bandwidth up or down, or reconfigure network policies with unprecedented speed – often in minutes or hours, compared to the weeks or months typically required for traditional hardware deployments. This agility allows organisations to respond rapidly to changing market conditions, support dynamic business needs like seasonal peaks or project-based requirements, accelerate the rollout of new applications, and integrate acquisitions more quickly. In a fast-paced digital economy, this ability to adapt swiftly is a critical competitive differentiator.

Greater Flexibility

NaaS offers substantial flexibility in both consumption and deployment. The subscription model, frequently featuring pay-as-you-go or usage-based billing options, allows businesses to align network costs directly with actual consumption, optimising expenditure and improving financial predictability. This shift from CapEx to OpEx eliminates the need for large upfront investments in hardware that might quickly become obsolete and avoids the inefficiency of paying for perpetually overprovisioned capacity.

Furthermore, NaaS inherently supports modern work paradigms by facilitating secure access for remote and hybrid workforces from anywhere, without exclusive reliance on traditional VPN bottlenecks. It simplifies connectivity to multi-cloud environments, enabling businesses to easily connect to different cloud providers and SaaS applications, fostering a flexible, best-of-breed IT strategy.

Improved Resilience and Reliability

NaaS providers typically build their platforms on robust, geographically distributed infrastructure featuring high levels of redundancy and fault tolerance. Leveraging diverse network paths, multiple Points of Presence (PoPs), automatic failover mechanisms, and intelligent software-defined routing, NaaS offerings can deliver high levels of network uptime and minimise the impact of potential hardware failures or link outages. By utilising private backbone connections and optimising traffic paths, NaaS can often provide more stable, predictable performance with lower latency and jitter compared to relying solely on the public internet. These performance characteristics are frequently backed by formal Service Level Agreements (SLAs) that guarantee specific levels of availability and performance. Proactive monitoring, often enhanced by AI-driven analytics, further contributes to reliability by identifying and mitigating potential issues before they impact users.

Beyond these core pillars, NaaS delivers a range of additional benefits crucial for modern enterprises. It drives cost-effectiveness by reducing CapEx, optimising OpEx, and lowering ancillary costs associated with power, cooling, and physical space for network hardware. It offers inherent scalability, allowing network capacity and services to be expanded or contracted effortlessly on demand. NaaS often incorporates enhanced security, frequently aligning with the Secure Access Service Edge (SASE) framework by integrating network connectivity and security functions (like firewall-as-a-service, secure web gateway,zero-trust network access) into a unified, cloud-delivered service, enabling consistent policy enforcement and reducing the attack surface. This leads to improved performance for critical applications, especially those hosted in the cloud, through optimised routing and Quality of Service (QoS) capabilities. Finally, the model drastically accelerates deployment times for new sites and services.

In essence, NaaS empowers businesses to consume networking with the same flexibility, scalability, and efficiency they have come to expect from cloud computing

It provides a modern, agile, and resilient foundation necessary to support digital transformation initiatives, enhance operational efficiency, strengthen security posture, and ultimately drive sustainable business growth in an increasingly complex and demanding technological landscape.

The e& NAAS advantage: Your partner for Network Transformation

Understanding the compelling benefits of the Network as a Service model is the first step; choosing the right partner to deliver on its promise is paramount. As a leading global technology group with deep roots in the region, e& stands at the forefront of network innovation, offering a robust and comprehensive NaaS portfolio designed to empower businesses to navigate the complexities of the modern digital landscape. e& goes beyond simply providing network connectivity; it partners with organisations to deliver tangible business outcomes through a combination of advanced technology, adherence to global standards, guaranteed performance, comprehensive support, and deep technical expertise.

e&'s commitment to delivering world-class NaaS solutions is evident in its strategic alignment with global industry standards and its focus on automation. The NaaS Industry Blueprint underscores this commitment. By adhering to these globally recognised standards for services like Carrier Ethernet, SD-WAN, and potentially SASE, e& ensures its offerings are built upon principles of interoperability, service assurance, and automation.

This standards-based approach facilitates seamless integration within multi-vendor environments and partner ecosystems, providing customers with greater flexibility and future-proofing their investments. Furthermore, e& emphasises the use of Lifecycle Service Orchestration (LSO) APIs, aligned with standards, to drive automation across the service lifecycle.

This focus aims to dramatically reduce service provisioning times – as highlighted by the potential to cut deployment from months to much less – improve operational efficiency for both e& and its customers, and ultimately enhance the overall customer experience through faster, more responsive service delivery. e&'s strategy involves developing a broader NaaS platform capable of delivering a range of automated, on-demand network functions and services.

- **Aduna API venture**

In 2025, e& became an equity partner in Aduna, the global network API venture led by Ericsson, enabling developers to tap into programmable network capabilities across markets—furthering e&'s commitment to platform-based service delivery.

- **AIR 3229 deployment**

Through the deployment of Ericsson's AIR 3229 dual-band Massive MIMO radios, e& UAE has achieved up to 20 per cent reduction in network power consumption and 25 per cent reduction in tower load, strengthening sustainability across its infrastructure.

- **AI Ops / Autonomous networks**

e& continues to embed AI and automation across its managed network portfolio, accelerating its roadmap towards intent-based and autonomous networks, particularly in UAE enterprise sectors.

Crucially, e& recognises that technology alone is insufficient. Delivering true value through NaaS requires a steadfast commitment to customer success, manifested through comprehensive support, clear performance guarantees, and an experienced workforce. This is where e& differentiates itself:

- **Full support**: e& provides end-to-end management and support, alleviating the burden on internal IT teams. It exemplifes this commitment, offering bespoke managed network and infrastructure solutions that cover the entire lifecycle – from initial design and hardware/software acquisition to setup, ongoing operations, and dedicated support services. This holistic approach ensures customers receive proactive assistance and expert guidance throughout their NaaS journey.
- **Clear SLAs:** Recognising the critical nature of network performance and availability, e& offers services backed by clear and guaranteed Service Level Agreements (SLAs). These SLAs provide customers with assurance regarding network uptime, latency, packet delivery, and other key metrics, ensuring the network consistently meets business requirements.

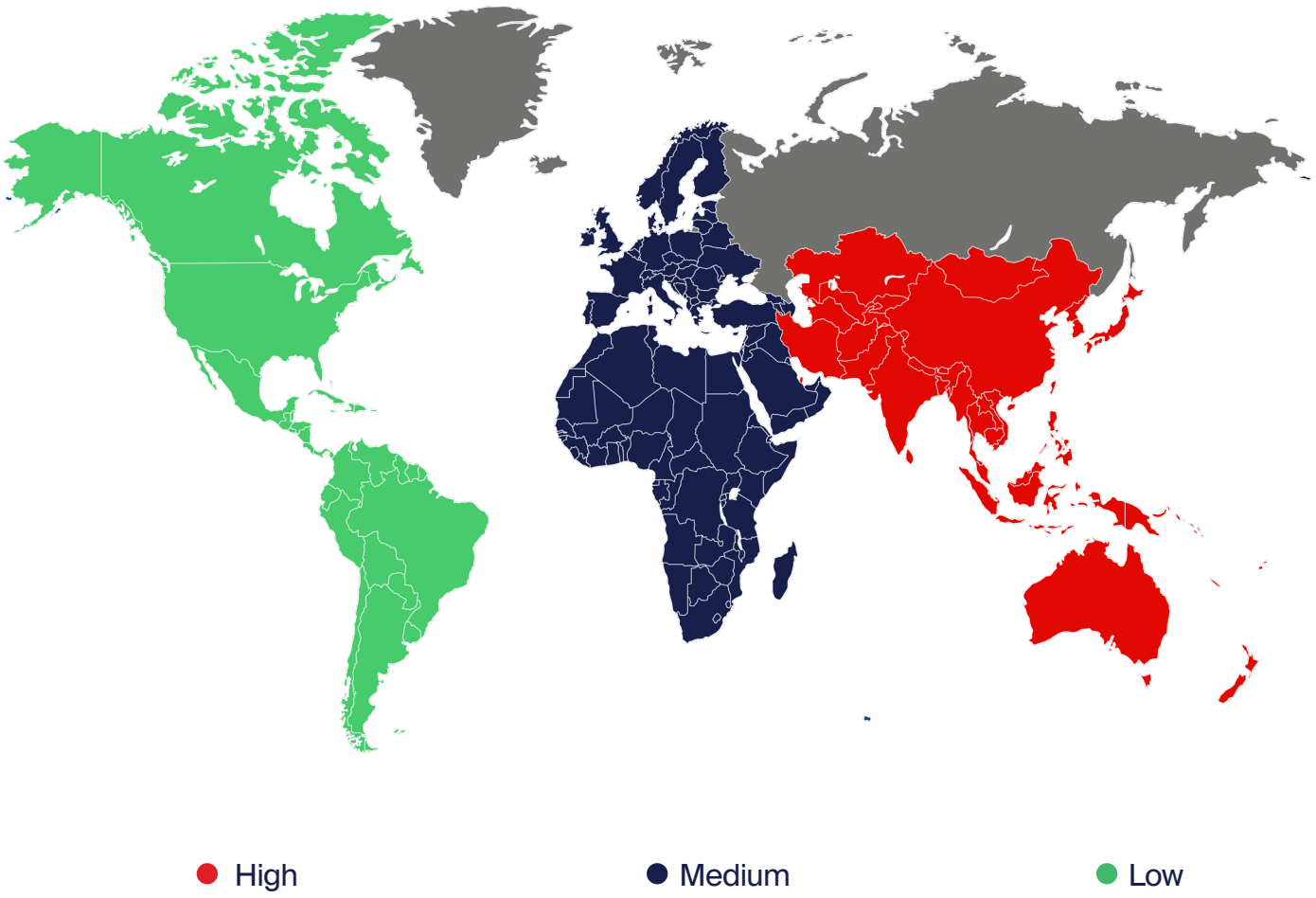
- **Full support**: Delivering and supporting sophisticated NaaS solutions requires deep technical expertise. e& explicitly invests in enhancing the **skillsets of its internal teams**, ensuring they possess the necessary capabilities to manage complex, modern network environments built on technologies like SD-WAN, SASE, cloud networking, and automation. This focus on managed services implies a dedicated, experienced workforce responsible for solution design, deployment, proactive monitoring, and expert support. Furthermore, e& strategically leverages a robust partner ecosystem, collaborating with leading technology providers to integrate best-of-breed capabilities and broaden the pool of available expertise.

- **The Future of NaaS: From Services to Platforms:** As the connectivity ecosystem evolves towards platform-based service delivery, NaaS is evolving from managed connectivity to programmable infrastructure. Through initiatives like Aduna, e& is redefining what network services mean—exposing network intelligence, security functions and traffic control directly to enterprise and developer platforms. This shift enables faster co- creation, ecosystem monetisation and real-time service innovation across sectors.

By integrating these elements – standards-based technology, flexible service offerings, comprehensive support, guaranteed performance via SLAs, and a skilled workforce – e& effectively translates the core NaaS benefits of manageability, agility, flexibility, and resilience into tangible value for its customers. Partnering with e& for NaaS means entrusting your network to an experienced provider focused on simplifying operations, enabling rapid adaptation, optimising costs, ensuring robust performance, and ultimately helping your organisation achieve its strategic objectives in the digital age.

Conclusion: Future-proofing your network with e& NAAS

The relentless pace of digital transformation, coupled with escalating cybersecurity threats, economic pressures, and the limitations inherent in traditional network infrastructure, has created an undeniable imperative for change. As this white paper has detailed, legacy networks, characterised by their rigidity, high maintenance costs, performance bottlenecks, and security vulnerabilities, are increasingly acting as anchors, holding businesses back from achieving their strategic goals. Relying on these outdated architectures in the face of modern demands for agility, scalability, and robust security is no longer a viable strategy; it is a direct path to diminished competitiveness and missed opportunities.



Network as a Service (NaaS) represents a fundamental shift in how organisations approach their network infrastructure, offering a strategically sound and operationally efficient alternative. By transitioning from owning and managing complex hardware to consuming network services via a flexible, cloud-delivered subscription model, businesses can unlock transformative benefits. NaaS provides the enhanced manageability needed to simplify operations, the unprecedented agility required to adapt to rapid market changes, the financial and operational flexibility essential for optimising resources, and the improved resilience and reliability crucial for supporting mission- critical applications and ensuring business continuity. It is the network model designed for the cloud era, empowering organisations to focus on innovation and growth rather than infrastructure maintenance.

Within this evolving landscape, e& emerges as a trusted partner, equipped with the vision, technology, and expertise to guide organisations through their network transformation journey. Choosing e& NaaS is not merely an infrastructure upgrade; it is a strategic decision to future-proof your network and empower your business. It means embracing a model that delivers operational simplicity, enables rapid innovation, provides cost predictability, and strengthens your security posture. It allows your IT teams to shift from reactive maintenance to proactive value creation. In a world defined by constant change, partnering with e& for Network as a Service provides the stable, agile, and secure foundation necessary to navigate uncertainty, seize opportunities, and drive sustainable success.

About e&

e& is a global technology group committed to advancing the digital future across markets in the Middle East, Asia, Africa and Europe. With the group's financial performance in 2024 showing a consolidated revenue of AED 59.2 billion and a net profit of AED 10.8 billion, e& continues to maintain its position as a financial powerhouse, reflected by its strong credit rating and solid balance sheet.

Founded in Abu Dhabi over 48 years ago, e& has evolved from a telecom pioneer into a technology group. Its footprint now spans 38 countries, offering a comprehensive portfolio of innovative digital services ranging from advanced connectivity, entertainment, streaming and financial services to AI-powered solutions, cloud computing, ICT, cybersecurity and IoT platforms.

The Group is structured around five core business pillars: e& UAE, e& international, e& life, e& enterprise and e& capital, each catering to distinct customer and market needs. These pillars empower e& to lead in various sectors, from telecom and digital lifestyle to enterprise services and venture investments. The ongoing strategic investments in AI, IoT, 5G and cloud services reinforce its leadership in the global technology landscape, driving the future of smart connectivity and innovation.

Driven by innovation, sustainability and a commitment to digital empowerment, e& is set on creating a smarter, more connected future for individuals, businesses and communities.

To learn more about e&, visit **eand.com.**

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