CASE STUDY

1NCE

Founded in 2018 by CEO Alexander P. Sator together with Deutsche Telekom AG, 1NCE is one of the fastest-growing companies in IoT. Headquartered in Cologne, Germany, the company has team members in 30 countries and offices in Amsterdam, Cologne, Hamburg, Hong Kong, London, Miami, Montevideo, São Paulo, Paris, Riga, Rome, Tokyo, and Warsaw.

1NCE delivers IoT software and connectivity for life, making global IoT simple, scalable, and affordable. The company operates the world's largest IoT network in the cloud, enabling more than 24,000 customers to manage more than 30 million devices across 170+ countries.

Its software platform ensures 99.97% availability for connected products and offers a wide range of easy-to-integrate building blocks, allowing customers to launch IoT projects faster, extend device lifetimes, and manage them efficiently from deployment to end of life.

1NCE supports all major cellular standards including 2G, 3G, 4G/LTE-M, and NB-IoT in selected regions, and provides radio services across Europe, Asia, North America, South America, Africa, and Oceania.

1NCE enables customers to focus on building better intelligent products by combining connectivity and

software into a single platform that is reliable and scalable. The company first disrupted the market with its IoT Lifetime Flat service, a one-time payment model designed to last for the entire lifetime of an IoT device – reducing complexity, lowering costs, and accelerating time-to-market for applications such as smart utilities, asset tracking, vehicle telematics, supply chain monitoring, and remote infrastructure management.

- **Device Authenticator** seamlessly authenticates and identifies devices in your cloud.
- **Device Inspector** enables remote monitoring of your device fleet.
- **Device Locator** provides constant device geo positioning without GPS.
- **Energy Saver** optimizes energy consumption of battery-powered products.
- **IoT Integrator** provides integration tools based on open standards bridging into your IT infrastructure.

1NCE has a strong network of global partners, giving customers the full power of major network operators and the agility of an IoT company.

KEY POINTS

- Used Megaport Virtual Edge (MVE) to terminate GPRS Roaming Exchange (GRX) and IP Exchange (IPX) connections from a third party and then route via Megaport into AWS.
- Leveraged Megaport's NaaS fabric to transform customer experience by providing a single point of delivery and service for customers' public cloud adoption requirements.
- Successfully enabled 3.44 billion PDP activations per month across all regions with a repeatable, scalable solution delivery.
- Drastically reduced deployment time for customers with Megaport's API-based provisioning.
- Created new global revenue opportunities by using Megaport's global underlay to facilitate expansion to new markets.

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SNAPSHOT

1NCE's network is rapidly expanding, leading to a significant increase in traffic. With BGP route limitations and the need to effectively inspect traffic and manage deployments, 1NCE engineers were seeking a solution that would provide the best way to establish low-latency, high-bandwidth peering with global service providers using AWS infrastructure.

By partnering with Megaport, 1NCE deployed a scalable and replicable solution using virtual **Fortinet FortiGate Next Generation Firewall** appliances and **Infrastructure-as-Code (IaC) tools like Terraform.** The result: a streamlined, resilient network that supports fast deployment and scales effortlessly in line with future growth.

CHALLENGES

BGP route limitations

As 1NCE expanded its network, engineers were seeking the most optimal way to establish high-performance peering with global service providers using AWS infrastructure. AWS Direct Connect has a default limit of 100 BGP routes, making it difficult to manage the growing volume and complexity of device traffic across regions. This restriction created a bottleneck that was set to limit performance and scalability as more devices came online.

Manual network configuration

As 1NCE expanded globally, manually managing multiple network configurations became increasingly inefficient. Network engineers needed to automate the deployment and management of their network infrastructure to ensure consistency, speed, and reliability across all regions.

Traffic control and visibility

The 1NCE team also needed a way to inspect and manage traffic in real time with more control. Without the ability to implement custom firewall policies or route inspection, ensuring secure and efficient connectivity at scale was difficult, especially across a diverse set of global deployments.

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SOLUTION

Automated cloud-native networking with virtualized routing

To overcome these connectivity and scalability challenges, 1NCE implemented a software-defined, cloud-native network architecture using Megaport.
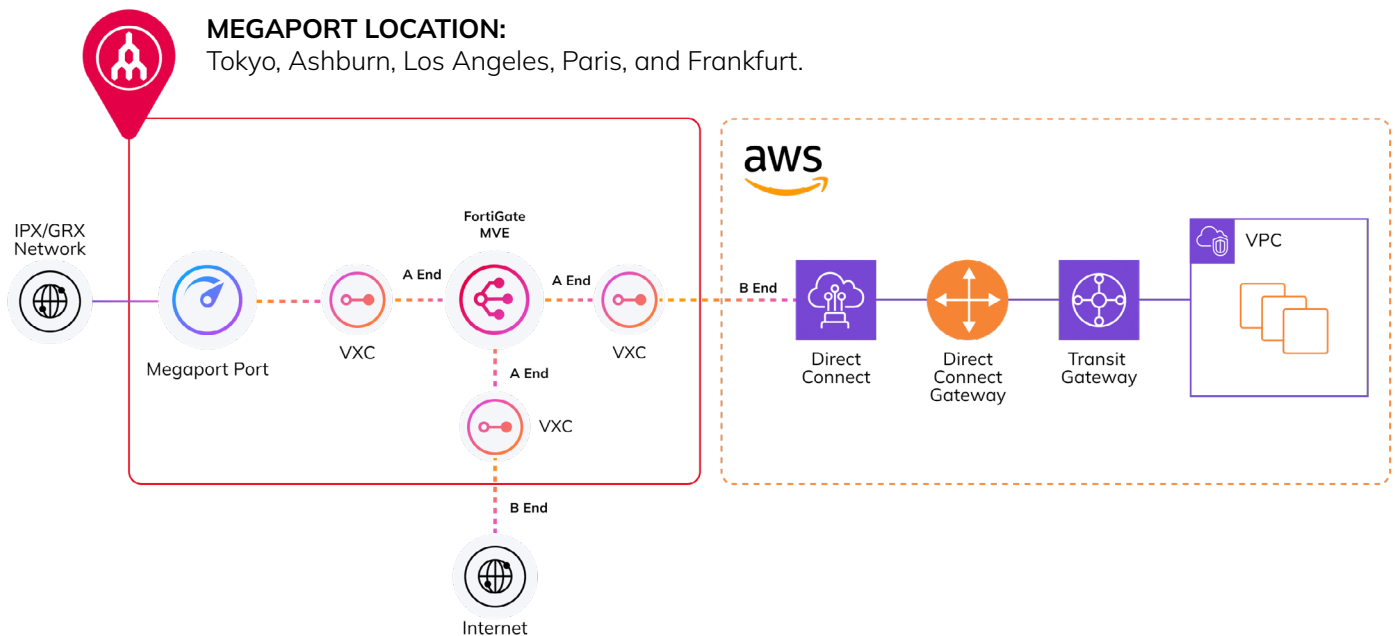
Megaport Virtual Edge (MVE) is Megaport's Network Functions Virtualization service, enabling customers to deploy SD-WAN gateways, virtual routers, and virtual firewalls in minutes. These virtual machines are hosted in Megaport's private cloud and provide the option to leverage global provider interconnections like AWS Direct Connect.

1NCE used MVE to deploy a FortiGate virtual machine to act as both firewall and router, allowing the team to offload all received BGP routes from the service provider and simply announce a default route into 1NCE's AWS environment, effectively solving the previous route limitation.

Now, network engineers can simply use MVE to terminate all IPX traffic from its third party via Megaport and into AWS.

To automate the deployment and management of its new network and set them up for long-term success, 1NCE deployed this solution with the **Megaport Terraform provider.** Now, the network is far easier to manage and scale with fast provisioning and repeatable network connections.

Following successful testing, this automated virtual setup was replicated across multiple global regions to effectively support 1NCE's rapidly growing network demands. The team has now deployed the same setup in Tokyo, Ashburn, Los Angeles, Paris, and Frankfurt.

MEGAPORT LOCATION:
Tokyo, Ashburn, Los Angeles, Paris, and Frankfurt.

IPX/GRX Network — Megaport Port — VXC — A End — FortiGate MVE — A End — VXC — B End — Direct Connect — Direct Connect Gateway — Transit Gateway — VPC

A End — VXC — B End — Internet

aws

BENEFITS

Scalable and repeatable architecture

By using Megaport's virtual infrastructure and IaC capabilities, 1NCE built a network architecture that could quickly be replicated across regions. This has allowed the team to standardize deployments, keep configurations consistent, and scale the 1NCE network in step with its global customer base, without adding operational complexity. With Megaport and AWS services, 1NCE has successfully enabled 3.44 billion PDP activations per month across all regions.

Streamlined routing and traffic control

The implementation of a FortiGate appliance with MVE enabled 1NCE to efficiently manage BGP routing by offloading route tables and announcing only a default route to AWS. This approach not only bypassed AWS's 100-route limitation, but also gave the team granular control over traffic flows and security policies for better performance and reliability.

Expert support and operational confidence

Megaport's team worked closely with 1NCE engineers throughout deployment of their new network to offer timely guidance, clear documentation, and tailored recommendations. This collaborative relationship has given 1NCE the confidence to continue expanding the solution globally.

> "
> The Megaport team was highly engaged and helpful at every stage. Their expert guidance and prompt feedback made a complex implementation feel straightforward."
>
> Jevgenijs K., Senior Cloud Network Engineer – 1NCE

FUTURE PLANS

Building on its strong foundation of network stability, automation, and collaboration, 1NCE plans to extend this virtualized, software-defined network model globally. And as the company continues to scale globally and replicate this MVE setup in more regions, the team wants to strengthen its partnership with Megaport.

With Megaport's help, 1NCE is ready to lead the way for the global IoT market – and we're excited to work alongside them as they catapult to global success.
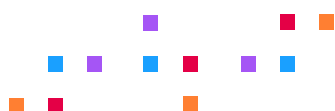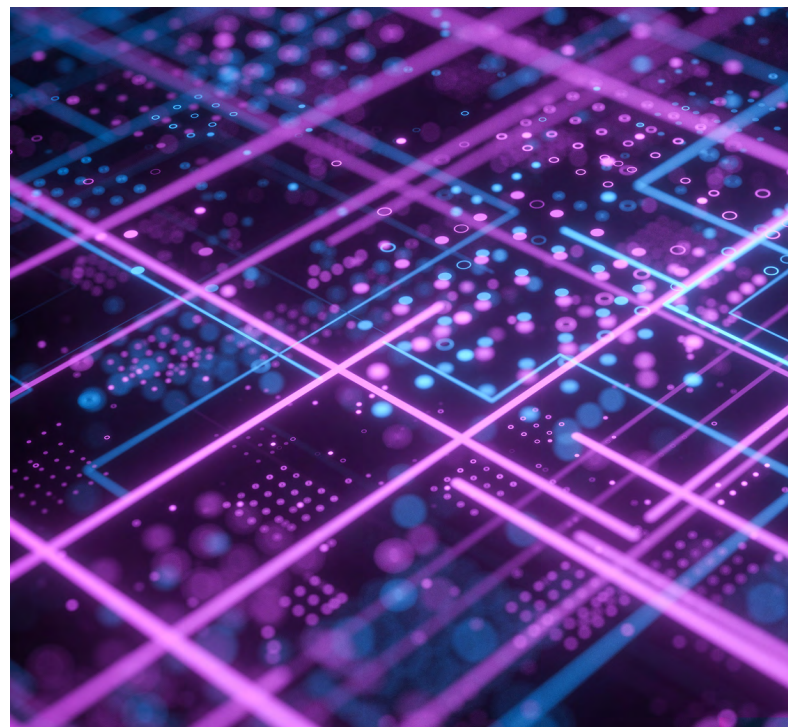
Complex Networks, Simplified.

Deploy global private connectivity in minutes.

Megaport is the leading provider of Network as a Service (NaaS) solutions. Our global Software Defined Network (SDN) helps businesses rapidly connect their network to services on demand via our easy-to-use portal or open API.

Megaport makes network connectivity easy and agile compared to traditional networking solutions. Our global ecosystem includes the world's top cloud service providers, data center operators, systems integrators, and managed service providers.

One platform for every connection.

1NCE

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Megaport