Online Retailer ———
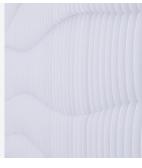
CASE
STUDY

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Megaport

CASESTUDY

One of Australia's most popular online retailers uses Megaport Virtual Edge (MVE) to power more than 500 robots that make their warehouse fulfillment automation possible.

Supplying everything from the latest in fashion to home appliances, this online retailer has been a leading e-commerce marketplace for over 15 years, with a mission to bring low prices to everyday Australians. Beginning in Melbourne with only a handful of staff members operating in a small warehouse, the brand has since grown to hundreds of employees who work together to send out tens of thousands of parcels each day to their millions of active customers.

KEY
POINTS

- Used Megaport Virtual Edge (MVE) to reduce latency and satisfy the application requirements (less than 20 milliseconds) for the robots operating in its fulfillment warehouse.

- Created a virtual data center in Sydney to support business expansions from its Melbourne base and streamline its AWS connection.

CASESTUDY

SNAPSHOT

With thousands of orders placed online each day, the company's warehouse needs to operate quickly and effectively to ensure packages are sent out the door – and these order numbers are only expected to increase as the business sets its sights on expanding, with the addition of a Sydney warehouse.

Being a completely online store, the company draws in huge volumes of virtual traffic while managing and protecting its millions of customers' personal and financial data. But with their high-tech fulfillment robots in the warehouse and plans to expand to more locations, the team found themselves needing to find a network setup that offered predictable latency and performance, and tightened security.

By working closely with Megaport, the company was able to transform a complicated series of network paths into a secure and high-performing end-to-end architecture. Initially trialing Megaport Virtual Edge (MVE), the team now enjoys the benefits of Megaport's private and secure network solution from branch to cloud.

The company's Senior Network Engineer said they originally set up MVE as a proof of concept, just to see if it worked; if it didn't, the team was going to look at potentially running up data center space and Fortinet hardware onsite.

But this proof of concept was so successful, they simply continued with it.

CHALLENGES

UNPREDICTABLE LATENCY

When it comes to modern logistics operations, milliseconds can mean the difference between smooth sailing and total havoc – and the team knew they needed a more reliable network design to get the consistent latency their operations require.

Over 500 robots move around the warehouse to grab stock from approximately 7,000 shelves – and with such a high volume of orders placed daily, these robots need to work efficiently and quickly to ensure customer satisfaction. In fact, they need to keep under a 20 millisecond latency threshold to remain operational – anything higher than this means total blackout.

High latency doesn't just affect warehouse operations – it impacts data transfer throughout company-wide operations, too.

With their current setup, the company faced the problem of frequent 'hairpinning' (data traveling between two network points via an on-premises environment) where data would travel from Sydney to Melbourne and back to Sydney; this increased latency and reduced performance, speed, and reliability.

SECURITY CONCERNS

With thousands of Australians shopping via the popular marketplace each day, the retailer needs to protect a huge number of customer financial details, email addresses, and demographic information such as names and localities.

Having the company's connections coming into its data center and its warehouse environment meant keeping these connections secure was of critical importance.

The business was experiencing a large portion of web traffic incoming from unknown or unsecure parts of the public internet, such as cybercriminals or those in other countries outside of Australia, which is a threat to both the company's and their customers' personal data.

According to the company's Senior Network Engineer, if at any point in time that [connection] was interrupted, whether it be maliciously or via somebody trying to manipulate the data that they had, it would have a massive impact on the team's ability to fulfill orders and protect their customer data.

With hundreds of thousands of attacks on business data globally each day, it's never been more important for enterprises to operate on a private and secure network.

CASESTUDY

SOLUTION

In response to the company's need for reduced latency and simplified network paths, as well as a system to support expanding operations in Sydney, the company chose Megaport to deploy and manage its cloud connectivity through Megaport Virtual Edge (MVE).

CREATED A VIRTUAL DATA CENTER IN SYDNEY

The company has recently migrated from a legacy MPLS network to Fortinet Secure SD-WAN.

To support services in Sydney from their warehouse in Melbourne, Megaport worked with the retailer to deploy a virtual data center through MVE, which integrates seamlessly with its Fortinet Secure SD-WAN. This eliminated the need for the company to build or purchase costly infrastructure, as well as sidestep the associated costs of maintaining this infrastructure.

Without having to hairpin data between Sydney and Melbourne, the company is enjoying an efficient, high-performance network for its AWS connectivity – plus, with Megaport managing the infrastructure, its engineers don't need to physically be in Sydney for monitoring.

MVE gave the company an opportunity to use Megaport's network function virtualization service, which allowed the company to extend its SD-WAN fabric to sites without hardware. The company also used MVE to connect to AWS Direct Connect to reduce latency and create a footprint in Sydney without having to establish a physical point of presence.

CONNECTED FULFILLMENT ROBOTS TO MVE TO IMPROVE LATENCY

By integrating its hundreds of robots into an end-to-end network, the company has a network that can match the high speed and volume demands of its fulfillment.

Not having to deal with data center equipment on site has made operations faster and more convenient, and is something the company credits for improving their network experience significantly.

The online retailer's network now benefits from reduced hops, faster speeds, and decreased jitter, which all make for a higher-performing network.

IMPROVED NETWORK SECURITY TO REDUCE UNWANTED VISITORS

By opting for Megaport's private Software Defined Network (SDN) and improving network security with MVE, the company now has peace of mind following a significant reduction in unwanted site visitors.

While the team used to see a high number of hits from external countries trying to gain access to their servers, that issue has disappeared with MVE.
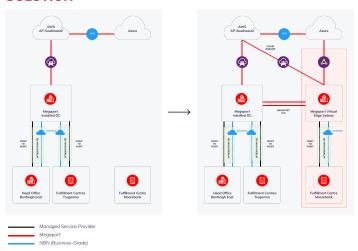
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It [MVE] gave us an opportunity to not only leverage a virtual Megaport appliance, which allowed us to do SD-WAN type functions that we wanted to do, but it also gave us the opportunity to use the Megaport functionality for using AWS Direct Connect."

— ENGINEER FOR ONLINE RETAILER

SOLUTION

Managed Service Provider	
Megaport	
NBN (Business-Grade)	

FUTURE PLANS

After great success with the initial MVE project, the company is now looking at future implementation.

"As things are going more and more towards virtualization and cloud-based items, migrating everything out of our data center in Melbourne and putting it into a virtual cloud-type platform is where we want to end up."

By continuing to strategically virtualize their network across their Melbourne warehouse, the team will be able to not only continue to securely connect their clouds, but also reduce their network paths which ultimately improves latency and network performance.

"We want to minimize that footprint, basically."

The retailer has the potential to spin up more connections through Megaport as it consider its Sydney game plan.

"Everything's run very smoothly and Megaport has been a pleasure to work with."

Megaport