QUANTUM *LIGHTSPEED*

Quantum Lightspeed is Check Point's new hyper-fast firewall, offering businesses super-fast speeds and ultra-low latency while maintaining your network's security. Ideal for industries where network performance is fundamental to the bottom line.

Quantum Lightspeed provides:

✓ **5x Firewall performance**

✓ **Secure High-speed data transfer with up to 800 Gbps Firewall throughput**

✓ **3µS Ultra-low latency**

✓ **Hyper-scalable from 250 Gbps to 3 Tbps for ever-growing network demand**

Firewall Requirements for the Modern Data Center

Today's high performance data centers need to balance maintaining security with the growing demand for extremely high speed, ultra-low latency, and high throughput network requirements.

Across industries, companies are competing to optimize their operations and workflows in every space imaginable, including network performance. This means staying at the cutting edge of technology and discovering what's possible when it comes to network security, speed, and latency.

High-speed networks offer a range of advantages, including:

- Fast and simple cloud storage and the ability to rapidly transfer massive files.
- High-speed financial transactions including high-frequency trading.
- Robust data storage with daily automatic multi-terabyte backups.
- Effortless collaboration for remote workers globally.
- Improved line of business productivity.

While these benefits are critical for success, networks also need to remain safe and secure. A vital yet limiting factor on network speed is often the firewalls used to protect them. To stay competitive, enterprises require firewalls that offer high levels of security alongside high speed.

This means looking to solutions like Check Point's new Quantum Lightspeed firewalls, which offer all the benefits of high-speed networks and low latency data transfer while keeping your data center safe from both external cyber-attacks and lateral threats within the data center.

Cyber Threat

Cyber attacks are a constant threat to organizations operating online today. Bad actors are continually finding new and more sophisticated approaches to gain access, and extract value from businesses' sensitive information found online.

To keep this threat at bay, firms must prioritize their online security through:

- Top of the line anti-virus and anti-malware software that is regularly updated

- Regularly backing up systems and data

- Data encryption

- Maintaining up-to-date versions of all software used, ensuring the latest security patches

- Promoting best practices amongst employees

- And of course, monitoring and filtering incoming and outgoing traffic on your network using a suitable firewall

Cyber-attacks are only increasing. Covid-19 saw businesses transform how they operate with a dramatic rise in remote working. The need to provide network access to a disparate workforce created a significant headache for IT departments and increased the opportunities for cyber-attacks.

2020 also produced a pandemic of cyber-attacks, breaking all records regarding data loss and the number of cyber-attacks on companies, governments, and individuals. Check Point's 2021 Cyber Security Report laid bare the scale of the problem with:

- The world facing over 100,000 malicious websites and 10,000 malicious files each day

- 87% of organizations have experienced an attempted exploit of a known vulnerability in their system.

- And 46% of organizations have at least one member of staff who downloaded a malicious mobile application.

Estimates suggest cybercrime will cost the world $10.5 trillion annually by 2025, with the average cost of a data breach in 2020 being $3.86 million.

In the modern business world, firewalls have to hold up against a barrage of cyber-attacks, maintaining the security of the company's network while allowing it to interact with the outside online world rapidly.
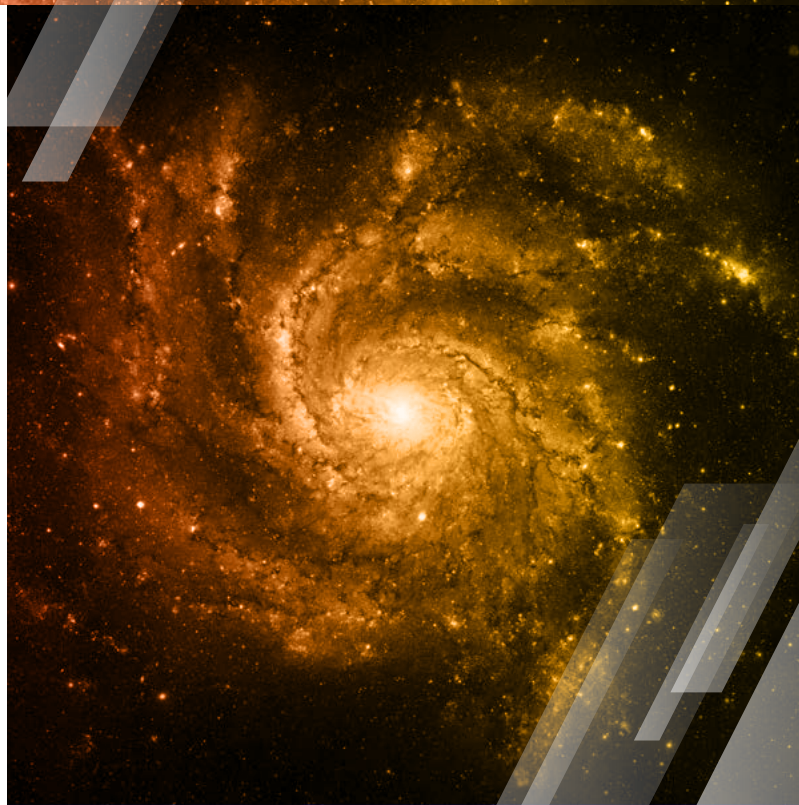
Shrinking Data Centers

With shrinking data centers, modern firewall solutions must find ways to deliver more throughput while consuming less space and power. Enterprises are also looking to reduce their server costs and no longer want to lease large-scale data center space along with the additional power/cooling costs they require.

Reductions in data center footprint make the remaining IT infrastructure that your business runs even more important. This means looking to new technologies that can provide both high-speed data transfer, ultra-low latency and massive throughput.

Scalability

Data centers require firewall solutions that can scale with them and match their requirements as they grow. Repeatedly replacing your network firewalls is costly and time-consuming, diverting attention at a time when your business is pushing for rapid growth.

To ensure networks meet and exceed the demands placed on them, enterprises need firewall options that seamlessly deliver increased throughput without the need for costly upgrades.

Therefore the modern data center firewall needs cloud-like ability to expand throughput in incremental steps over time with a simple and agile management platform.

Quantum Lightspeed

Check Point's new Quantum Lightspeed firewall can meet all the requirements of the modern data center and more, setting new standards for network performance, security and scalability.

Designed in collaboration with NVIDIA, the Quantum Lightspeed firewall leverages NVIDIA's advanced ASIC in the ConnectX network interface to help deliver line rate firewall performance.

Quantum Lightspeed combines NVIDIA packet processing technology with Check Point's hyper-fast firewall to validate and process your network traffic at unprecedented speeds. This is made possible due to breakthrough innovation which enables Quantum Lightspeed to greatly accelerate multiple firewall functions at the network interface level including:

- **TCP State Validation**
- **Header Validation**
- **Tunneling and NAT Support**

The Quantum Lightspeed family delivers 250 Gbps to 800 Gbps in aggregate firewall throughput. And it supports ultra-low 3µS latency, which is 10x better than typical latency values attainable from other high-end firewalls.

Enterprise data centers can now support hyper-growth thanks to Quantum Lightspeed's scalable security throughput with small form factor appliances that take up less rack space and overcome the challenges of reduced Data Center capacity.

Quantum Lightspeed in Action

Quantum Lightspeed is the perfect solution for a range of businesses that require impressive network scale and speed to compete.

Finance

In business, it is often said time is money. This is never truer than in the world of high-frequency trading, where companies analyze trading data to execute up to millions of trades a second. Executing a high volume of low-yield trades means only the fastest company wins in high-frequency trading.

To have any success in an industry like this requires networks with extremely low latency. Financial organizations utilize algorithms that rapidly react to incoming trading data to spot split-second arbitrage opportunities in the market. Although each trade only makes a small profit for the company, this is made up for by the sheer volume of trades.

In high-frequency trading, the Financial Conduct Authority (FCA) in the United Kingdom found that the average race between companies lasted just 79 micro-seconds. Plus, the only company to have any real benefit from the trade is the one that executed fastest. Moreover, by analyzing 2.2 billion races, the FCA found more than 20% of the total trading volume came from latency arbitrage races.

High-frequency trading is a sector tailor-made for next-generation firewalls that can offer ultra-low latency while maintaining network security. Financial institutions operating high-frequency trading operations have to arm themselves with the best firewalls to avoid losing ground to their competitors.

With the Quantum Lightspeed hyper-fast firewall, firms can securely process millions of high-frequency transactions with a latency smaller than 3 microseconds, increasing their transaction capacity by 10x.

Financial institutions with Quantum Lightspeed taking them down the home stretch not only win the high-frequency trade race; they also get to enter more races by making more trades. All this safe in the knowledge they aren't sacrificing their network's security.

Manufacturing

Manufacturing companies generate and transfer vast amounts of data across their networks. Whether it is backing up the latest designs or collaborating on large 3D CAD files, networks need secure high-speed data transfers to make the manufacturing processes as seamless as possible.

Quantum Lightspeed allows manufacturing firms to upgrade their data transfer speeds up to 800 Gbps while maintaining strong network security. For example, a 100TB data center backup happening across multiple locations, with a typical transfer speed of 145 Gbps, would take 1.5 hours. With Quantum Lightspeed, you can backup this monster dataset in just 17 minutes, more than 5x faster.

Retail

Retail companies operate in a market that requires significant scaling of networks depending on surges in demand. While some of these can be planned for events like Christmas or Black Friday sales, others—like a once-in-a-century pandemic—cannot.

With the pandemic transforming consumer purchasing habits and supercharging online activity, companies had to scramble to upgrade their networks dealing with increased traffic.

Quantum Lightspeed offers greater performance in a smaller package to achieve scalable security and throughput without ripping out appliances and overhauling network hardware. Quantum Lightspeed can also scale access control throughput globally up to 3 Tbps with maximum protection, which is especially important for retail's client-facing networks.

Securely Upgrade Your Data Center Network to
Quantum Lightspeed

Irrespective of industry and business model, companies are striving for networks that can combine security with high speeds and low latency. With Quantum Lightspeed, the bar is being raised as to what companies can expect when it comes to network throughput and security.

Get in touch with Check Point to get a demo and discover the benefits your business can unlock with the Quantum Lightspeed Hyper-Fast Firewall.

GET A DEMO

CHECK POINT™