Servium

SAFE, SIMPLE, CONNECTED

Insight Guide

Whole-business solutions
with cloud-first networking

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CLOUD-FIRST NETWORKING

It's no exaggeration to say that networks are the backbone of most modern businesses. Without them, we would struggle to share information and resources across the breadth of an organisation. We wouldn't be able to connect with customers and provide the services that keep businesses alive.

This has only become more obvious over the past few years, where the dramatic shift towards remote working has seen access to the network become more widely spread than ever. Suddenly, we found ourselves connecting across dozens, even hundreds of different locations and needing to use and access countless apps and devices.

Approaches to networking need to adapt to meet our changing requirements. One of these adaptations is a shift towards **cloud-first networking**.

Cloud-first networking places every network component in the organisation in the cloud, allowing it to be centrally managed. The result is a network that is more agile and more responsive. It can be managed from anywhere in the world, from any device.

Traditional networking   VS   Cloud-first networking

- Requires manual configuration
- Downtime during upgrades
- Needs regular security updates
- Uses expensive physical infrastructure

- Rapid, zero-touch deployment
- Scales reliably
- Downloads and installs updates automatically
- Requires minimal infrastructure

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A 'WHOLE BUSINESS' SOLUTION

Cloud-first networking allows you easy connectivity to all manner of devices and applications stretching throughout your whole business and beyond.

From just a single cloud-based dashboard it's possible to administer:

Wired & Wireless Networks

Switches

Routers & Firewall

Mobile Device Management

Internet of Things (IoT) Devices

When your network is being administered through the cloud, configuring settings for a sales office in Houston is just as easy as tweaking the details for your London headquarters or even a worker at home.

But your network needs to offer more than just a means of connectivity. It needs to keep pace with business demands, support better ways for users to work and enable innovation and the pursuit of value. A cloud-first network is the perfect foundation to build from.

DEPLOY FASTER

These days it's hard to get any business done until you're connected to your organisation's network. This means that when you open up a new site or expand offices into a new floor of your building, it's vital that you're able to deploy as fast as possible.

However, anyone who has expanded a traditional network to a new site knows that it can be a time-consuming task. Not only does it require extensive configuration and troubleshooting, but the practicalities of configuring individual connections and devices can also really eat into your IT team's capacity

This is, however, one area where cloud-based solutions excel. Without so much reliance on physical hardware, a team can significantly cut down on deployment times. What might have taken days for a traditional network configuration can be completed in a matter of hours[1] with a cloud-first solution.

For example getting a new wireless network online can be achieved in a fraction of the time - consisting only of connecting access points with an ethernet cable and ensuring that everything is turned on. All of the configuration and troubleshooting can be handled remotely, and smart visualisation and network management tools make it easy to spot potential problems once live.

There's no need to relocate an entire team of IT specialists to handle a deployment. Most of the on-the-ground tasks can be carried out without any specialist training. This means that experts can spend their time attending to the business' core needs and providing support, rather than fiddling with config settings in a new branch office.

Once you've completed one deployment, it's simple to clone the existing configuration and apply it to new sites as you add them to the network.

1 https://meraki.cisco.com/blog/2018/04/deploying-a-school-network-in-4-hours/

MANAGE ANYWHERE

Modern networks can be complex and tricky to manage. They can require manual configuration, and even if they can be administered from a central console your IT managers still need to monitor and allocate resources.

Cloud-based architectures such as Meraki simplify all this. All the information that administrators need, delivered to a single dashboard that delivers powerful insight. This gives instant analysis of performance, connectivity, and more.

Using these live tools, there's no longer any need for network administrators to go on-site to perform routine troubleshooting tests on problematic equipment. Everything can be seen, tested and configured from head office - or, indeed, from an IT professional's mobile device. The only thing you need to manage the network is a web browser and internet access.

The dashboard also provides visibility into the devices, users, and applications being managed on the network. This insight helps to boost performance and gives administrators the information needed to enforce the business' security policies and enable the performance needed in today's demanding network environments.

In the event that the network does ever run into trouble, a remote dashboard also comes loaded with a huge range of support tools. Information ranging from ping through to live packet captures can be integrated directly into the dashboard display, cutting down on the time needed to resolve issues. This wealth of information makes it much easier for your IT team to tackle any issues that crop up at locations that lack a dedicated IT staff.

DEVICE MANAGEMENT

These days, there's more to networking than switches and routers. More and more businesses are making use of advances in Internet of Things (IoT) technology by connecting IT with a host of Operational Technologies (OT).

Meraki has already developed several IoT devices that seamlessly integrate with their networking solutions, working right out of the box and delivering impressive results from day one.

Cameras

As important as digital security has become, physical security can't be ignored either. Smart, network-integrated cameras can play a major role in helping to keep both people and premises safe and secure.

Managed from the cloud, these smart cameras offer benefits that more traditional equipment just can't compete with. They're easier to maintain and upgrade, thanks to automatic patching and remote management. This makes them harder to exploit by bad actors, while control data can be used to easily send reports to other devices on the network.

Smart cameras have uses beyond simple CCTV, however. They've already been used to study where and how customers shop, allowing stores to optimise layouts and marketing plans.

Sensors

Meraki has already developed a range of smart environmental sensors to track everything from temperature and humidity to water leaks and open doors. These sensors can be quickly linked with other applications on the platform to deliver impressive results.

Sensors can be used to send out alerts in the event of problems - such as unauthorised access to a secure area, or a failed cooler in a cold storage unit. However, they can also boost a business' efficiency by providing insights into customer traffic and how humidity on the shop floor impacts the quality of a finished product.

ROBUST INTEGRATION

When we talk about networking solutions, it's easy to picture traditional office buildings loaded with countless PCs and laptops. However, these aren't the only businesses that have network requirements.

As more and more smart devices are used, many other sectors can also benefit from everything that cloud-based networking can bring to the table.

Manufacturing

Modern manufacturing businesses are exploring the prospect of smarter factories – seeking to operate more efficiently and more adaptably than they have in the past. Machines are networked and centrally controlled, with intelligent systems ensuring that processes on the shop floor flow with minimum downtime or wasted power.

A reliable, scalable network plays a vital role in ensuring that all this cutting-edge technology works effectively. Connecting new devices and keeping them secure from hackers looking to disrupt operations or launch ransomware attacks needs to be simple.

Many smart factories are also making use of IoT-enabled sensors and cameras to better control workflow and ensure safety. Meraki's wireless cameras, for example, have been used to identify and alert people working without required PPE, such as hard-hats and safety vests.

On campus

Students and staff expect to be able to work wherever they are on campus, whether this is in administrative offices, classrooms, student accommodation or the coffee shop. This is made easy with a cloud-based network that delivers a reliable connection and an identical experience, no matter where you're based.

On top of this, schools and campuses require high levels of security. It's easy to build policies that manage permissions and monitor access using a remote dashboard, while IoT-enabled cameras can be used to ensure that staff and students remain safe.

Retail

There's more behind networking in retail stores than managing payments. Shops can take advantage of cameras and sensors to automatically order stock when products are flying off the shelves, track and analyse customer footfall, and ensure that transaction details are kept safely secured on the network. All of this means retailers can more accurately respond to changes in demand, enabling them to make efficiencies that directly benefit the bottom line.

Of course, plenty of retail businesses operate countless branches across the country - and even the world - each of which needs to be linked to the network with minimal on-the-ground IT support. Easy-to-install cloud-based networks are therefore the perfect fit.

SCALABILITY

As businesses grow, so too do their networking requirements. They add more employees and with them come more devices and higher demands on data flow. Branch offices and new sites need to be securely added to the network, with information flowing seamlessly between the scattered premises.

Scaling up a network like this can be challenging, but many of the barriers can be lowered - if not removed entirely - with the use of cloud-based networking.

Deploying to new sites can be much smoother and faster with cloud-based solutions, allowing branch offices to be quickly added to an existing network. On top of this, the ability to easily clone configurations means that new additions should run perfectly out of the box. No need to tinker with configuration files to make sure everything is working the way it should be.

Beyond this, you can also seamlessly add new devices and IoT-based equipment to your network as business needs expand. New wireless cameras, for example, can be integrated with little fuss, as can more traditional network equipment like routers and switches.

Being able to manage and configure networks remotely also means that it's simple to maintain reliability as a network evolves. No matter how big the organisation grows, it's easy to ensure that the experience remains consistent.

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SECURITY

Hackers are increasingly looking for ways to exploit network vulnerabilities to steal data and launch ransomware attacks. Studies have revealed that more than half of UK businesses reported an attempted cyber-attack in 2019, and this number is continuing to rise year on year[2].

One of the best ways to fend off cyber-attacks is ensuring that every device and access point on the network is equipped with the latest updates and security patches. However, this can be difficult with traditional network designs. Keeping up the constant rounds of updates takes huge amounts of time, which smaller organisations might not be able to spare. On top of this, it can take weeks or even months for

over-stretched IT professionals to travel to every branch and office in a network, and it's easy for lesser-used equipment to be overlooked for several rounds of patching.

This all becomes much easier to manage when you switch to a cloud-based networking solution. Devices and access points can be configured to automatically download and install patches as they become available, making it harder for attackers to find exploits.

On top of this, having the network managed centrally allows administrators to monitor suspicious activity from a single location, and implement policies such as two-factor authentication.
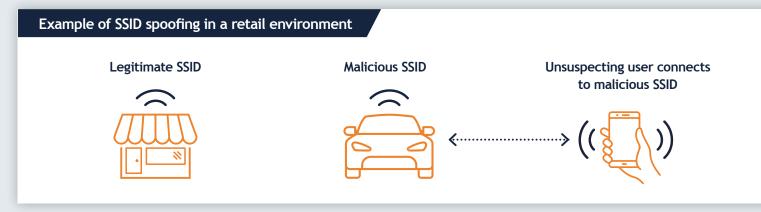
Cloud-based networks can also be loaded with security software designed to add extra layers of protection, such as Cisco Meraki's Air Marshal system.

Air Marshal

Air Marshal works to identify and contain rogue access points, disconnecting legitimate users automatically and preventing them from trying to join the unsafe network.

This containment is accomplished by sending deauthentication packets with the spoofed MAC address of the rogue access point, forcing any clients to instantly disconnect.

Example of SSID spoofing in a retail environment

Legitimate SSID

Malicious SSID

Unsuspecting user connects to malicious SSID

2 https://www.hiscox.co.uk/business-insurance/cyber-and-data-insurance/faq/small-business-guide-to-cyber-attacks

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RELIABILITY

Network downtime is one of the bogeymen of modern business. Not only does a crashed or inaccessible network means that staff can't work effectively, many organisations can suffer major losses of reputation if clients, customers and partners find they suddenlycan't access services. This can be even more important for companies working in sectors such as healthcare, where networks are integral to manage appointments and even monitor that medication is being correctly dispensed.

Ensuring that all network equipment is up to date and patched can help you avoid these scenarios, but the ongoing costs of managing a physical environment can mount up.

With a cloud-based solution, the fact that each access point in your network can effectively act independently means that there's no single point of failure that can scuttle the entire system. Beyond this, when failures and issues do occur, it's much easier to identify the issue remotely with integrated troubleshooting tools. The result is better reliability plus savings in time and costs.

CREATING VALUE

It's easy to think of networks as just another piece of business infrastructure. Historically, they're necessary to continue operations but don't provide any value to the organisation as a whole. This doesn't have to be the case, however. If approached in the correct way, a well-built and implemented cloud-based network can help to improve the way a business operates and create value.

It's a cliché, but time is money. Being able to quickly and easily set up your networking solutions means that you can get sites online faster, employees are more productive, the network can be used for business enablement, and IT teams can focus on projects that help the business to grow. All of this ultimately improves the bottom line.

Similarly, it's possible to take advantage of the insights and connected devices on a cloud-based network to create value. Monitoring devices and ensuring that resources are diverted to where they are most needed ensures that essential operations occur smoothly and easily, while the insights provided by your dashboard can make the growth of your network more efficient.

These all help to deliver greater performance across the business as a whole - exactly what you're looking for from your network. Helpfully, all of this potential is accessible from a single all-in-one platform from Meraki.

GET STARTED

To explore Meraki solutions further, speak to a Servium expert.

Contact us now – visit servium.com, email hello@servium.com, or call +44 (0)303 334 3000.

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