Lightpath

WHY MODERN WIFI MATTERS
and what it takes to keep your enterprise covered

Table of Contents:

THE DEMAND FOR WIFI IS EXPLODING

Today, WiFi is the primary technology used to access a corporate network and the Internet for both employees and guests. Seamless, always-on WiFi is now the expectation with the proliferation of the Internet of Things (IoT) and multiple connected cities, cars, and planes. This trend is what is being called the "Consumerization of IT" and it is supported wholly on the backbone of WiFi.

The demand curve is only rising, and will just continue to grow. Enabling the tools necessary to do work today is the cost of doing business, and your organization will be left behind if you can't adequately support your infrastructure. In short, WiFi is business critical.

Employees are conducting important business through mobile phones, tablets, and laptops — and a lot of that data is being routed through enterprise wireless networks:

MORE USERS   MORE DATA   MORE DEMAND

More than 29%
of the typical user population relies on WiFi as their primary means of corporate connectivity – almost doubling from 2013 to 2015.[1]

More than half
of all traffic from mobile devices (almost 14 Exabytes!) is offloaded to the fixed network by means of WiFi devices.[2]

Global mobile data traffic will **increase nearly 10x** from 2014 to 2019, growing at a compound annual growth rate (CAGR) of 57%.[2]

Studies have long shown that free WiFi encourages customers and guests to stay longer, spend more money, and come back more often, but less recognized are the benefits of empowering employees with a wireless network. For example, 74% of organizations either already use or are planning to implement BYOD (Bring Your Own Device) policies,[3] and 53% of general merchandise retailers found that arming associates with WiFi devices dramatically increased customer loyalty, resulting in an average of 4.3% more sales[4].

WIFI ISN'T OPTIONAL ANYMORE

Once considered a luxury or a perk — or even a pay-for-use guest service — readily available, reliable WiFi is now assumed. Given a choice, customers prefer a business that caters to their needs for seamless, safe internet access. In industries where patrons have many options, including dining, hospitality, and retail, failing to offer WiFi can actually hurt the business. And for service providers like salons, clinics, and medical offices, customers sitting in a waiting room are more likely to become impatient if they can't connect during their wait.

In enterprise, it's crucial that companies provide an adaptable work environment for employees to produce their best work. Today's competitive culture is one that's mobile and fluid, mixing work and personal activities, and supporting employees' needs to collaborate anywhere, anytime, throughout your facility. Companies that take advantage of the flexibility afforded by WiFi are supporting increased productivity, while ones that do not will find it harder to attract and retain top talent.

SLOW WIFI IS JUST AS DAMAGING AS NO WIFI

It's not enough to simply hang up some wireless access points and flip a switch. In fact, setting up WiFi can exceed the levels of attention, expertise, and investment needed for an enterprise's wired LAN. Poorly implemented WiFi frustrates users, and hurts productivity.

The typical wireless LAN (WLAN) controller has become a bottleneck, requiring IT to incessantly add more controllers as more users and devices come onto the network. This accelerated ramp up of users, devices, sophisticated applications, and security risks is straining the average wireless network. It's also straining IT staff who need to learn a whole new set of disciplines around radio and mobility.

Your IT organization must now accurately manage spectrum, including channel assignments, widths, radio power and interference in each band to maximize speed, create seamless coverage, and integrate layers of security for secure, controlled access, and protection against ever-mutating cyber threats.

To enable your employees and provide an important service to your guests, patrons, and partners, you need an expert team to evaluate your needs across the network layers for technology, security, and capacity in order to provide a reliable, cost-effective wireless network solution from the start. A flaky, sluggish WiFi experience can quickly impact organizational performance, annoy employees and customers, plus drive up support costs.

D.I.Y. ISN'T THE ONLY OPTION

Many IT departments will find it difficult to handle the demands of designing, deploying, and supporting their wireless networks without augmenting the team. An alternate approach to doing it yourself is managed WiFi.

Managed WiFi allows you to bring in a team with broad and deep experience evaluating, installing, and operating wireless networks, without the need for upfront capital investment. You are ensured the latest technology updates, 24/7 proactive monitoring and support, and expertly configured security to meet all the unique needs of your business and industry.

A cloud-managed wireless network offers a far more flexible, cost-effective solution to delivering nimble, reliable, secure, and scalable wireless access. With this design, management and control of the network take place through intelligent Access Points (APs) and virtual controllers that run in the cloud, eliminating the need for a hardware controller. A cloud-managed wireless network greatly increases scalability to meet increasing BYOD demands and quickly expand coverage across the enterprise. Centralized management provides excellent visibility into the performance of your network, making user management and future expansion easy and quick to accommodate. All at a predictable operating cost.

STAYING IN CONTROL OF YOUR NETWORK

With more wireless data traffic, maintaining data security is very challenging, especially for public networks. The challenge is even more substantial if the WiFi network is carrying operational data, as a hacker could not only steal data but take down the network. This is especially crucial when it comes to meeting the requirements for strict industry standards such as PCI, HIPAA, Sarbanes-Oxley, etc. Security must be enforced at every entry point to block malicious traffic before it gets onto the wireless network.

In addition, many companies need to deploy multiple levels of service for different users as well as keep user and operations traffic separate. For example, you may want to provide a free, slower guest service, a higher bandwidth for premium customers, and another level for employees or for business operations.

When seeking a solution, make sure it has the flexibility to segment use of your WiFi network into multiple levels of service if you need it to. A secure, well-performing WiFi network allows your company to focus on its core goals.

Industries where Managed WiFi stands out

EDUCATION

- BYOD management: Simplify device onboarding and preserve network integrity
- Integrated, industry-leading security effectiveness
- Web filtering: Block access to adult content and malicious websites
- Allow student access to mobile resources, staff access to administrative systems/tools, and an alternative to a wired network

HOSPITALITY

- Provide WiFi hotspots for Internet access by guests, workers, customers, and visitors
- Centrally manage all wireless APs, switches, and security appliances
- Visibility and control: Prioritize traffic, backup, segregate traffic, etc.

PROFESSIONAL SERVICES

- Provide strong security, guest access, and control over users, devices, and application
- Enable users to access business network and the Internet with a mobile device
- Application Control: Policy-based control over any application usage
- Centralized management control

HEALTHCARE OFFICES

- Provide secure access to medical images, electronic medical records, and remote medical systems from mobile devices
- Flawless, uninterrupted performance
- Integrated, industry-leading security effectiveness
- Application control: Policy-based control over any application usage

RETAIL SPACES

- Offer public WiFi hotspots to attract patrons and promote customer loyalty
- Enable private wireless access from any wireless device—including handheld point-of-sale terminals
- Ability to monitor bandwidth, traffic, content, and visitors
- Centralized management with visibility across multi-store network

FINANCIAL

- Provide WiFi hotspots for Internet access by guest workers, customers, and visitors
- Flawless, uninterrupted performance
- Guest and contractor traffic securely separated from employee traffic

PREPARE FOR THE NEAR FUTURE OF WIFI

The Internet of Things

Spurring on the unprecedented demand for ubiquitous, reliable WiFi is the dizzying growth of the Internet of Things: the collection of machines, appliances, PCs, phones, wearables, and other network-ready devices. The number of devices connected to the Internet in 2015 was about 18.2 billion. That number is expected to jump to over 50 billion in 2020, an average of seven devices for every person on earth. Each device is consuming and generating data that requires a flawless, highly responsive experience, the majority of which relies on wireless networks.

The 802.11ac Enterprise Standard

The 802.11 standard celebrated its 25th anniversary last year and was the first wireless technology effectively available to the masses. Now, our population simply assumes WiFi should be always on, always there, and since many cell phone data plans remain limited (or cost-prohibitive), mobile users continue to seek out and value WiFi. Today the evolved 802.11ac is considered the enterprise standard and enables speeds that are three times faster than the previous 802.11n generation.

However, the IEEE 802.11 working group continues to make progress towards better, faster and more flexible options for emerging scenarios. In addition to the improvements to 802.11ac, we can expect to see more about these in the next few years:

Lightpath Managed WiFi provides a fully managed wireless data network for secure, comprehensive, and reliable untethered service throughout your business. We set up and manage the network for you, sparing you up-front capital expenses and any potential burden for your IT organization.

Improve productivity and satisfaction for employees and guests alike with controlled access to corporate assets and the internet using networks running on the latest WiFi technologies. And with 99.9% uptime and 24/7 proactive monitoring and management, you can be assured that your wirelesss network just works.

802.11ah	Sometimes called WiFi HaLow, 802.11ah provides protocols and definitions for operating in the sub-one-gigahertz band (900 megahertz). While this spectrum has limited availability, it has a much longer range and can accommodate low data rates typical of machines. Use cases being considered are home appliances, furnaces, and lighting.
802.11ay	The next generation 60 GHz standard will provide much higher throughput than the soon to arrive 7 Gigabit/second 802.ad (WiGig); the 60GHz spectrum band is appropriate for low range applications, such as those within a room. 802.11ay promises 10 Gig speeds.
802.11ax	Appearing in 2019, this standard builds on 802.11ac quadrupling throughput with more radios for high-efficiency, high speed local area networks, particularly for dense deployments like stadiums, shopping malls, and subways. It will return these performance gains to the 2.4 GHz band, where 802.11ac is 5 GHz only.
802.11az	This next-generation amendment targets new positioning systems, augmenting GPS for indoor locations and reducing power consumptions.

The future of WiFi and wireless technology is exciting, fast paced, and an absolute necessity. Is your business ready?

1: InformationWeek http://www.networkcomputing.com/unified-communications/will-80211ac-kill-wired-ethernet/808342401
2: Cisco http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html
3: http://www.techproresearch.com/article/research-byod-booming-with-74-using-or-planning-to-use/
4: IHL group http://www.earthlinkbusiness.com/_static/_files/_pdfs/Impact_of_Store_Networks_on_Customer_Experience.pdf
5: Cisco: The Internet of Everything Is the New Economy
6: IEEE Spectrum: http://spectrum.ieee.org/tech-talk/telecom/wireless/whats-next-after-25-years-of-WiFi