Bridging the Digital Divide: Cisco Solutions for Community Wireless Broadband

Introduction

Health, education, work and relationships are more reliant on internet connectivity than ever before. And with the arrival of the COVID-19 pandemic, the long-standing problem of the digital divide has come into sharper focus. We believe there are three critical considerations organizations must face in approaching a solution to this digital divide:

Public Wi-Fi is a critical need.

Public Wi-Fi is now much more than a service. What was once a luxury has become a necessary public service in a world increasingly online and with an atmosphere of dispersed educational and career opportunity. Communities need reliable internet access in their homes and in public spaces such as hubs of transportation and city parks in order to access essential resources for health, work and learning.

Government funding is available.

In many cases, multiple government funding sources are available to support public Wi-Fi projects like these. Such programs include the Coronavirus Aid, Relief, and Economic Security (CARES) Act, Coronavirus Relief Fund (CRF), the federal E-Rate Program and the Broadband Technology Opportunities Program (BTOP).

Specialty network and security skills are crucial.

While government funding to support public Wi-Fi projects like these is often available, the specialty network and security skills needed to design, deploy and manage such infrastructures can seem out of reach. Insight, in partnership with technology partners like Cisco, fills that gap. We help clients such as public institutions bridge the digital divide, delivering the specialty network and security skills and expert technical support needed to design, deploy and manage a custom public Wi-Fi solution.

Problem statement

The digital inequity facing students, the elderly, low-income communities, small businesses and other disenfranchised populations across the country has left millions without reliable access to critical resources. Consider:

4.4 million households with children are without consistent internet access for remote learning.[1]

40% of adults aged 65+ are without home broadband, limiting reliable telehealth access.[2]

42 million Americans are without reliable broadband access, with low-income communities disproportionately affected.[3]

Many public institutions are searching for a solution, interested in leveraging federal relief and other funds to aid their communities and deliver reliable connectivity, and community wireless broadband solutions offer a promising answer to today's societal need for internet connectivity. But sifting through these needs and options to arrive at a best-fit solution is a complex undertaking — even more so the process of architecting, implementing and maintaining such a solution. Even with federal funding in hand, organizations that lack technical resources and reliable vendor connections struggle to get these initiatives off the ground.

Background

Insight and Cisco have been partners in delivering exceptional technology solutions for more than two decades. In this time, Insight has played an integral role in delivering innovative Cisco® solutions and managing hundreds of Cisco networks and thousands of devices for clients worldwide. The result of the partnership between Cisco as a solutions vendor and Insight as a service provider is innovative, future-focused technology solutions that meet a wide range of client needs in both public and private sectors — including the pressing need for community wireless broadband implementation.

As a long-standing pioneer and leader in networking solutions, Cisco helps service providers build flexible, scalable and highly secure networks. Cisco Digital Network Architecture (Cisco DNA™) is a unified, intent-based networking architecture that optimizes resources and enhances security, delivering advanced solutions for a wide range of networking requirements.

These network architecture solutions from Cisco are providing the critical foundational network infrastructures for Insight clients moving forward with plans to implement community wireless broadband solutions.

Solution

Organizations are addressing their communities' critical need for public Wi-Fi/broadband infrastructures by deploying Cisco® network technologies in conjunction with Insight's technological expertise to implement custom community broadband initiatives through Insight's Public Wi-Fi Implementation Services.

At Insight, we believe community wireless infrastructures are critical for addressing today's most pressing concerns and supporting a digital future for our cities, counties, school districts and citizens. Public Wi-Fi Implementation Services leverage a specialized set of capabilities and leading vendor partnerships to help the public sector deliver internet access to its communities, regardless of in-house skills or capacity.

One of the first steps in the Public Wi-Fi Implementation Services process is evaluating the client's need and existing infrastructures. When it comes to network capabilities, we ask clients the following questions to determine a baseline from which to optimize or implement the appropriate networking and security solutions:

Is your core networking infrastructure ready to support the additional endpoints and associated traffic flows?

Do you have the right security in place to segment traffic, users and applications?

Do you have any needs for other core services such as DHCP, DNS, content filtering, etc.?

Are there any visibility requirements?

What compliance and regulatory considerations must be factored into the solution?

When a new or upgraded network solution is needed, Cisco network solutions offer Insight clients a best-in-class network experience. We find Cisco's network offerings often help organizations increase innovation, strengthen security and scale as needed while reducing costs and complexity.

Cisco networks offer Insight clients the reliability, scalability and security that public sector organizations need to build and deliver an effective broadband solution that meets today's challenges with an eye to future change.

Reliability

When critical resources like work, education and health rely on wireless access, reliability is nonnegotiable. Cisco's proven network solutions and cloud-to-client architecture allow organizations to deliver users a fast, efficient and consistent experience.

Security

Cisco network solutions offer built-in trust and security solutions, delivering secure connectivity, end-to-end visibility and analytics to help keep data and users on the network protected at all times.

Scalability

Cisco's intelligent network architecture is simple, resilient and built to accommodate automation. These aspects make it easy for clients to scale public Wi-Fi projects up or down as user needs and organization demands evolve over time.

As an example of these solutions in action, we refer to a public Wi-Fi implementation performed in a southern U.S. county home to more than 850,000 residents. With more than a dozen school districts and several collegiate institutions located within the county, and much of the population outside the city limits lacking the internet access needed to continue their education, the County decided to use federal government aid to implement a public Wi-Fi solution. Partnering with Insight and leveraging Cisco to implement an independent, secure backend network, the client was able to quickly deploy a wireless mesh network to deliver free public internet access to more than 30,000 students and remote workers.

Conclusion

At Insight, we partner with leading vendors like Cisco to help organizations plan and implement innovative technologies and infrastructures to deliver compassionate solutions for today's challenges and a creative approach to a better future.

From planning and Proofs of Concept (PoCs) to deployment and ongoing management, Public Wi-Fi Implementation Services from Insight deliver a full spectrum of proven services for timely and successful community broadband implementation. We can also provide schools and government agencies with devices, accessories and training to ensure those they serve can achieve digital literacy and benefit from community wireless infrastructure.

References

[1] USA Facts. (2020, Oct. 19). 4.4 million households with children don't have consistent access to computers for online learning during the pandemic. usafacts.org.

[2] Anderson, M. (2019, June 13). Mobile Technology and Home Broadband 2019. Pew Research Center.

[3] Busby, J., Tanberk, J., and BroadbandNow Team. (2020, Feb. 3). FCC Reports Broadband Unavailable to 21.3 Million Americans, BroadbandNow Study Indicates 42 Million Do Not Have Access. BroadbandNow Research.