MassChallenge

Global Startup Incubator Deploys Cloud Networking and Gigabit Wi-Fi for Innovative Network Solution

Challenges

- Provide wireless network in large office space for over 100 separate companies participating in startup accelerator program
- Enable adaptable and flexible Wi-Fi for cutting-edge participants who often develop cloud solutions and sophisticated devices
- Overcome physical challenges in open office space
- Prepare for international expansion and future wireless needs

Results

- Robust and reliable controller-less network infrastructure poised to embrace modern software-defined wireless networking
- Separate networking operations for third-party vending and food services
- Greater efficiency achieved for wireless functions, including optimized video communications
- Enterprise features enable better management and control, as well as greater user understanding

About MassChallenge

MassChallenge was created in 2009 with the belief that startups are good for society – they provide more jobs, opportunities and wealth – and it's important to help them succeed.

As the most startup-friendly accelerator, MassChallenge works with early-stage startups to provide the resources and community of support they need to launch and grow – with no strings attached. This means that the organization does not take any equity from the companies it supports. Structured as a nonprofit, MassChallenge partners with corporations including government organizations, law firms, universities and other community organizations to support their model. Benefits for participating startups include free office space, access to funding, legal advice, media and marketing support, and in-kind resources. MassChallenge also offers curriculum to participating startups throughout the four-month program.

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>
> **—Roman Kern**
> Director of Systems and Operations

Globally, MassChallenge has a network of 835 alumni startups that have raised over $1.4 billion in funding, generated more than $575 million in revenue and created over 50,000 direct and indirect jobs across a diverse range of industries. In addition to the Boston accelerator, which is located in the Innovation & Design Building, MassChallenge also runs accelerators in the U.K., Switzerland, Israel and Mexico, with plans for future expansion.

Challenge

MassChallenge was in the enviable position of selecting a new headquarters location, as they were required to move out of its previous space due to an infrastructure overhaul. While the organization had Meraki in place in its previous location, the network was dropping connection and was unreliable. In the words of Roman Kern, Director of Systems and Operations, "Startups depend on three things: the Internet, a desk and coffee. If the web is not working, they'll leave and work elsewhere, so Wi-Fi was one of the most critical pieces of our infrastructure."

To meet this basic need for entrepreneurs, MassChallenge needed a solution partner that could meet its physical and technical requirements, as well as understand its unique culture. It was imperative for MassChallenge to partner with a company that was entrepreneurial in nature and could relate to its incubator companies, with an innate culture responding quickly to customers and market demands.

Since the organization operates nimbly like a startup and the entrepreneurs it serves, MassChallenge mandated a cloud-based solution with centralized management so its small IT team could push configurations easily and monitor the network remotely. Other key requirements were the capability for Gigabit Wi-Fi, as well as the flexibility for the network to adapt to next-generation access requirements, such as software-defined networking. Startups often use a variety of intensive cloud solutions and the connection needed to be fast and robust, especially since the wireless network is the primary access layer, without a wired network for the over 100 startups residing in the space.

The new office covers 26,000 square feet, has tricky physical constraints, and not to mention is home to over 100 startup companies. The office has no ceiling tiles, with large ducts and an overhead air conditioning system, with lots of interference from nearby Logan Airport. In addition, the office is next door to a cruise ship terminal and dry dock, creating other potential for interference.

The Solution

After evaluating Meraki and Ruckus, MassChallenge chose Aerohive for a comprehensive Wi-Fi solution to launch in its new office space. MassChallenge believed Aerohive understood its needs and requirements and trusted its solution and expertise. Aerohive had its own successful startup story, forming the early beginnings of the company in a Silicon Valley garage, and MassChallenge recognized Aerohive would deeply understand its culture of collaboration and innovation. Like many of its incubator companies, Aerohive changed the industry landscape, introducing a new controller-less solution that disrupted the traditional approach to Wi-Fi by leveraging the cloud and offering self-organizing and centrally managed networks that are simpler to operate, integrate, and scale.. MassChallenge identified Aerohive's superior approach to networking, and also recognized Aerohive to be the type of pioneering company that would best respond to its needs and requirements.

MassChallenge deployed Aerohive AP121 access points, as well as AP370 access points, to incorporate next generation 802.11ac to set the stage for future Wi-Fi technologies. The organization uses Aerohive SR2024 and SR2148 switches, as well as a BR200 branch router for testing and backup. HiveManager Online is used for network management and control. Since it was building the network from the ground up, Aerohive teams were instrumental in helping the organization generate the floor plan and heat map before the installation.

The organization has set up two primary networks, one for staff and another for the resident startup companies. There is also a guest network with limited bandwidth to allow priority for other users. Startups access a separate VLAN and can access printer services wirelessly, and use individual Private Shared Key for each startup to access the corporate network, with security measures to limit file sharing services. Two additional VLANs are set up for Axis security cameras on premises that monitor activities and external deliveries.

MassChallenge has an Aramark food and convenience market within its office and the third party vendor is assigned its own VLAN to operate the self-serve kiosk to scan items and conduct payment for items.

MassChallenge will soon begin to use Aerohive's ID Manager for managing its guest network, which will enable the organization to better manage who is logging onto the network. Reporting features are also critical as the organization needs to monitor the activities of startups to ensure they are dedicating adequate time to the incubator program, as well as understand resident behavior and to better serve its participants.

Results

Since deploying Aerohive, MassChallenge has had little feedback from its entrepreneurs, other than the network is 'super fast' and most participants don't even realize they are using Wi-Fi, assuming they are on a wired connection due to the reliability and quality of throughput.

"Many of our participants have sophisticated wireless-capable devices and cloud solutions, and with Aerohive infrastructure we conduct the majority of our business on Wi-Fi across the board," said Roman Kern, Director of Systems and Operations at MassChallenge. "We have improved efficiencies throughout all our operations, and are poised to meet any future Gigabit Wi-Fi needs of our entrepreneurs."

MassChallenge has a rigorous schedule from June to October when it hosts its annual accelerator program. In this year alone, MassChallenge welcomed 128 startups to their 2016 class, and hosted over 280 events with over 12,000 participants. It often recruits experts to speak, drawing large numbers of attendees who are encouraged to use social media during sessions. The network often will register over 1,000 devices without issue during such workshops and events.

With application and visibility tools from Aerohive, MassChallenge can prioritize traffic and applications in use on the Wi-Fi network, such as Skype for video conferencing. The organization has 9 conference rooms and tablets are placed on the wall outside and loaded with conference room booking software Roomzilla, allowing users to automatically view and reserve availability through a web interface. Conference rooms will soon be equipped with Apple TVs and MassChallenge will begin using Bonjour Gateway to manage AirPlay and AirPrint, as well as all Apple devices on the network.

All employees and users can also access a proprietary internal dashboard wirelessly, giving access to resources, presentations, curriculum schedules and videos.

"One of the great advantages with Aerohive's SD-LAN is that not only is it an intuitive solution and easy to manage, but as our needs change and expand, we can adopt and add enterprise features and adapt the network as required," explains Kern. "It was important to MassChallenge to find a solution partner that was also entrepreneurial at heart, and that understood our mission and vision. We are confident Aerohive is able to support and connect with us at all levels."

As the organization expands globally, the IT team will be able to configure APs and send them to new offices, including the launch in the next six months of its UK office in London.

Greater Innovation Ahead

Entrepreneurs are a demanding breed, and participants at MassChallenge are often working to pave the way for new ideas, technology, and medical and scientific advances.

This was the catalyst that drove MassChallenge to prepare its own offices for the future, building a network that can handle the rigorous demands of today and tomorrow. As for the coffee and the desk, we'll have to trust that's already in place.