U.S. Department of Energy's Solar Decathlon

Aerohive Powers Wi-Fi for DOE Solar Decathlon Competition

About the U.S. Department of Energy's Solar Decathlon

The Solar Decathlon is a biennial competition sponsored by the U.S. Department of Energy (DOE) and the Office of Energy Efficiency and Renewable Energy to challenge collegiate teams to design, build and operate solar-powered houses that are cost effective, energy-efficient, and attractive. Since its inception in 2002, the Solar Decathlon has involved over 130 collegiate teams, and expanded the competition to global sites starting in 2010.

The last two events for North America have been hosted by the City of Irvine's Orange County Great Park. Local services provider Consiliant Technologies was selected to provide networking and IT infrastructure for the Solar Decathlon.

The Challenge

The Solar Decathlon is held outdoors on the campus of the Orange County Great Park, a former military base covering over 600 acres. The Decathlon provides open space for its builders and also uses the City of Irvine's park facilities to host the opening and closing awards ceremony.

Isolated wireless access is required for each of the 14 building teams, with separate VLANs for each team. The teams utilize an array of sensors in each home that provide metrics in order to judge the homes in 10 categories of sustainability. The outdoor access points needed to be resilient to the high temperatures and direct sunlight.

In addition, the Solar Decathlon wanted to offer free public Wi-Fi for this event, as thousands of visitors come to tour the homes and learn about the latest in sustainable innovation.

The Solution

While the competition had used Cisco technology in the past, Aerohive was a natural choice for this year's Decathlon. The City of Irvine is an Aerohive customer and was already planning to expand wireless access in Hangar 244, a former hangar now converted to an outdoor conference hall where opening and closing events are held for the Decathlon, as well as other popular civic events year-round. In addition, the Department of Energy has a close working relationship with the City of Irvine and valued its recommendation of Aerohive.

Aerohive AP170 and AP1130 access points were deployed, and Consiliant used HiveManager Online for network management for the entire event. Guest Wi-Fi was set up with a captive web portal to welcome over 10,000 guests per day to the public exhibit, including many local schools. Visitors were encouraged to post to social media during the event.

Devices connected to the network included a variety of smartphones, tablets, notebooks, and Smart TVs. In addition, each home had a myriad of specialized wireless devices including thermostats, lighting and entertainment products. The Hangar was equipped with AP1130 and AP230 access points for the outdoor event space and to provide Wi-Fi to its art gallery and studios.

Why Aerohive?

- Dependable partner with trusted technology
- Resilient outdoor access points that can withstand high temperatures
- Robust network management system to easily monitor and control network
- Ability to set up robust public guest Wi-Fi for duration of public exhibit

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"At the end of the day, we believed in Aerohive technology. Setting up Wi-Fi can be very tricky, and with added outdoor constraints it can be downright challenging. Consiliant was pleased to work alongside the City of Irvine and the U.S. Department of Energy to power the Solar Decathlon competition, giving us confidence that we can not only deliver for the competition in the years to come, but also architect solutions for our many customers using the Aerohive platform."

— Joe Kadlec
Vice President & Senior Partner
Consiliant Technologies for the U.S.
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