

# Case Study: Denver Museum of Nature & Science – WLAN



Aruba Wi-Fi, with ClearPass and AirWave, mobilizes interactivity for 1.4 million museum visitors annually



Beyond hosting 1.4 million visitors a year, Stan Rehfuss' organization conducts scientific research in five academic disciplines within its 716,000 sq. ft. facility. Naturally, this makes secure, reliable Wi-Fi an imperative.

"During our latest expansion, we determined the exhibits, classrooms and work areas would require modern Wi-Fi," says Rehfuss, Technology Systems Manager for the Denver Museum of Nature & Science. "It was time to update."

## Enterprise Wi-Fi + 5-Star Support Community

To outfit its newest wing, and the remainder of its multistory facility, the Museum investigated various options. Aruba Networks, an HP company, offered the most attractive Wi-Fi solution.

"Aruba's solution was robust, flexible and easier to manage," says Rehfuss. "As a public entity with enterprise needs and a lean IT staff, management efficiencies and cost-effective scalability are important to us."

## Robust Hardware with Centralized Management Tools

With the assistance of local partner Accuvant, the Museum selected and installed Aruba's indoor and outdoor access points (APs) and 7200 Series Mobility Controllers. Plus, the Museum adopted Aruba's vendor-agnostic tools: ClearPass, for network access control, and AirWave, for management and Wi-Fi optimization.

### Standardizing on 802.11ac

Most recently, the Museum began standardizing on Gigabit Wi-Fi by adding 802.11ac-enabled equipment in key locations, including the new outdoor AP-277 to supply cost-effective access for staff and guests.

"Deploying the AP-277 gave our staff tablet-based capabilities for checking in summer camp attendees," Rehfuss says. "Now, parents don't even need to leave their cars, smoothing drop-offs and improving experiences. Plus it was fast and easy to install."

## ClearPass Boosts Security, Streamlines Control

### REQUIREMENTS

- Centralized, streamlined & scalable WLAN
- Robust, flexible enterprise tools
- Unified management for wireless and wired

### SOLUTION

- Indoor & Outdoor Gigabit Wi-Fi APs
- 7200 Series Mobility Controllers
- Aruba ClearPass for access control
- AirWave for network management

### BENEFITS

- Aruba Wi-Fi blankets 716,000 sq. ft., serving employees and 1.4 million guests.
- Standardizing on 802.11ac-enabled APs for improved user experiences.
- Unified management of multivendor wireless and wired network for IT efficiencies.
- Vendor-agnostic network and access solutions streamline administration and boost security.
- Enables future adoption of mobile engagement to improve user experiences.

To safeguard its multivendor wireless and wired environment, the Museum values ClearPass for complete access control in a mobile world, Rehfuss says. ClearPass combines ultra-scalable, next-generation AAA (Authentication, Authorization, and Accounting) services with a policy engine that leverages contextual data based on user roles, device types, app usage and location – all from a single platform.

“For security, our previous system required multiple SSIDs with separate VLANs behind each of them,” Rehfuss says. “Because we host many events every year, from corporate meetings to weddings, we also frequently added ad-hoc SSIDs.”

“As a result, we had SSID soup,” he continues. “It was confusing and time-consuming to manage. With ClearPass, that’s all solved because policies are centralized and streamlined, eliminating the need for multiple SSIDs.”

### **Segregating traffic and supporting BYOD**

According to Rehfuss, ClearPass has significantly improved security by automatically separating the Museum’s internal traffic from contractor and visitor access. Also, with role-based policies, it’s now a breeze to support the Museum’s multiple types of access needs, including employee BYOD, exhibit-based devices, contractor mobility and visitor access.

“Our employee mobility is completely BYOD,” explains Rehfuss. “Also, Museum visitors expect guest Wi-Fi, contractors need connectivity and our exhibits increasingly use mobile devices for interactivity.”

“With ClearPass,” he adds, “we set policies for each type of use and the tool handles the rest. It’s that simple.”

## **AirWave Optimizes Wi-Fi & Tightly Integrates with ClearPass**

For maintaining overall WLAN health, the Museum relies on AirWave to unify management of its multivendor network. Seamless integration with ClearPass, for speedy issue diagnosis and troubleshooting, is also critical.

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As we become increasingly technology-enabled, our Aruba Wi-Fi ensures seamless experiences for all.

**STAN REHFUSS, TECHNOLOGY SYSTEMS MANAGER FOR THE DENVER MUSEUM OF NATURE & SCIENCE**

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AirWave’s map-like interface provides the Museum with critical and granular visibility into each AP, including real-time and historical connection information.

“We leverage AirWave in multiple ways,” Rehfuss says. “This includes investigating device authentication issues, where we begin with the ClearPass Access Tracker. From there, we can automatically launch AirWave, which frequently reveals the problem’s source is RF-related. Such drill-down capability was non-existent, before.”

### **VisualRF speeds troubleshooting**

The Museum also utilizes AirWave's VisualRF, which fuses application reporting with device information. As a result, problems that previously took hours to resolve can be fixed in minutes, producing substantial savings through operational efficiency, reduced downtime and consolidated management toolsets.

"VisualRF really helps us resolve AV equipment interference issues, like between a wireless mic and a projector," says Rehfuss. "We depend on AirWave for quick and effective troubleshooting."

## Pervasive Mobility and PCI Compliance, too

Overall, the benefits from the Museum's Wi-Fi modernization are significant, starting with pervasive mobility for increasingly #GenMobile constituencies. #GenMobile are today's new breed of tech-savvy mobile device users.

"Previously, we only offered guest access to contractor groups," Rehfuss says. "Now, we provide secure connectivity to individual contractors, as well as more than 1.3 million Museum visitors annually."

Additionally, enterprise Wi-Fi has improved the Museum's compliance with regulations, such as PCI. "Securing our network from rogue access points is a PCI requirement," says Rehfuss. "Aruba's alerting capabilities help us keep rogues from connecting, which is a positive for network performance as well as compliance."

### Enabling Science on a Sphere

According to Rehfuss, visitor and research experiences are also enhanced by the updated network. "For example, in our Space Odyssey exhibit we have what's called 'Science on a Sphere,'" he says. "There, docents use a tablet to manage the exhibit, making reliable Wi-Fi essential to fully engaging the public."

What's more, the Museum's research in anthropology, earth sciences, health sciences, space sciences and zoology also benefits from Wi-Fi connectivity, Rehfuss says.

## Looking Toward New Types of Mobile Engagement

Moving forward, the Museum can further tap Aruba's enterprise scalability. This could include adopting mobile engagement technologies, such as Aruba's Meridian Mobile App Platform and Aruba Beacons. These technologies can augment visitor services, offer turn-by-turn directions to amenities and provide proximity-aware interactivity.

"With proximity awareness, we could present interactive features to guests as they encounter an exhibit," says Rehfuss. "Also, by combining traffic flow analytics and wayfinding technologies, we could guide visitors to under-utilized areas of the museum in real-time."

### Quality, seamless Wi-Fi experiences for all

Today, the Museum's staff, contractors and visitors enjoy uninterrupted, high-quality, secure mobile experiences wherever they work or roam. And, it's all possible without added burdens to the organization's IT staff.

"Whether it's exhibits, research, events or day-to-day operations, we're becoming more dependent on wireless connectivity," Rehfuss says. "With our Aruba system, and its enterprise toolsets, we can ensure it's all seamless to our mobile users."

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