

Aster Conservatory Green

A residential complex with advanced surveillance and security systems



Simplicity and reliability led Forest City Enterprises to choose Optigo Networks for their Aster Conservatory Green Project. Although Forest City had already specified a traditional Ethernet network, they recognized challenges in the design with reliability, conduit space, and complexity. Optigo Networks provided a simplified, state-of-the-art managed network solution, providing reliability at a reduced cost.

Key statistics

- Residential community
- 24 low-rise buildings
- 352 residences
- 23 acres
- Converged systems

Background

The Aster Conservatory Green is a residential community in Denver, CO, comprising 352 residences across 24 low-rise buildings. The buildings use advanced security technology, including 40 HD video cameras and 60 FOB-access tele-entry points. The building network — with cameras and FOB-access — is completely separate from the telecom network, serving voice and data to the residents. While the cameras and tele-entry devices are networked over a common physical infrastructure, they are logically separated, running over separate virtual local area networks (VLANs).

Challenges

The project faced the challenge of networking many devices, spanning multiple buildings and large distances. Forest City originally designed a conventional implementation using active daisy-chaining to reduce the amount of fiber cabling needed. Active daisy-chaining meant several switches would connect back to the head-end via other switches connected in series. With this network topology, a single failure in one active network switch would bring down the switches further down the line. A home-run topology was not possible due to conduit, wire, and cost constraints.

Solution

With Optigo's innovative solution, Forest City created a flexible fiber optic network, connecting the edge switches back to the head-end through passive optical splitters. At both the head-end and the switches, Ethernet ports are provided to seamlessly connect any IP-enabled device. While all traffic is passed over fiber optic cables, all the end devices are connected using traditional Ethernet cables.

This cut down the number of fiber strands connected to the first building by half, reducing the amount of equipment needed to connect over 100 IP-enabled devices back to an aggregation switch with a single management controller. At the same time, Optigo's technology allowed Forest City to reduce the number of points of failure while improving reliability and future scalability. Forest City appreciated how easy it was to add new ports to the network, as buildings slowly came online over seven months. Using Optigo OneView, Forest City was able to configure all of the switches from a central location — even before they were plugged into the system.

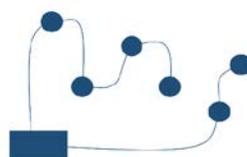
Home-run

✗ Too expensive/insufficient conduit space



Traditional active daisy chain

✗ Many points of failure, too expensive



Optigo passive daisy chain

✓ Fault tolerant, cost effective

