

Case Study

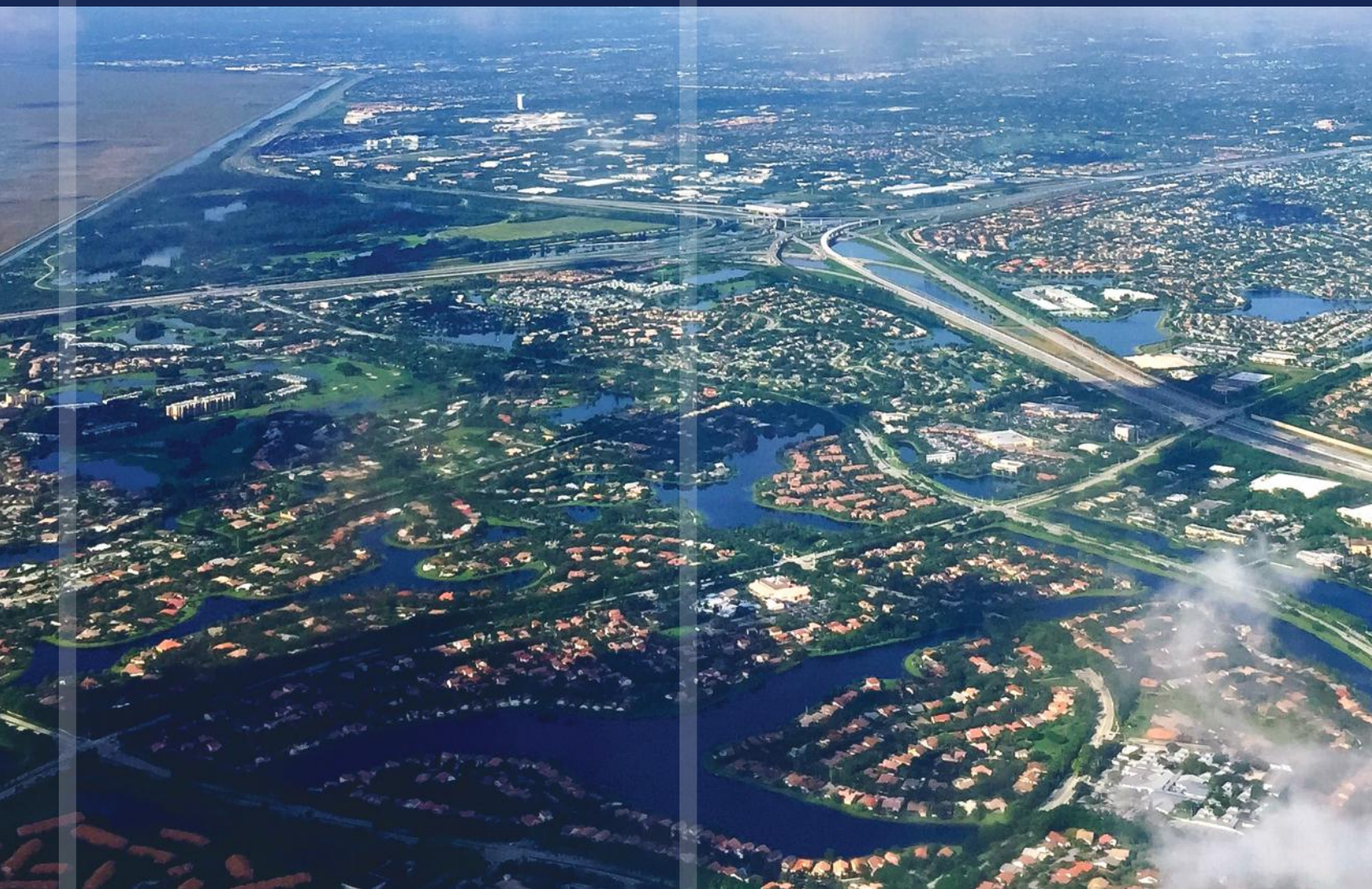
THE
CITY OF WESTON



City of Weston, Florida

R2 helps the City of Weston become one of the premier smart cities in the US.

Located about half an hour north of Miami in Florida's Broward County, Weston, Florida (population 70,000+) has a unique structure to its local government—it is almost entirely outsourced. With just 10 full-time city employees, Weston relies on contracted workers and managed service providers for the vast majority of its needs, making the city exceptionally flexible and adaptable. To address its IT requirements the City's Director of Technology Services, Ryan Fernandes believes in "layering" resources to continue their mission of delivering exceptional services. That is why they layered R2 into their resource toolbox.



The objective

Build an Efficient, Stable and Secure Technology Stack

The City of Weston's technology infrastructure grew very organically since its inception in 1997 and they adopted their first Technology Strategic Plan in 2018. The Technology Strategic Plan provided a broad framework for the effective management of information technology in line with the city's broader operational strategic goals.

The city's outsourced model allowed the IT infrastructure to be planned out and built from the ground up, "layer by layer" creating an integrated technology stack.

Weston needed a partner who understood its goals, understood their core applications, and the importance of building a strong foundation for the technology stack.

"If you do not build a strong infrastructure, you cannot expect to have stable and secure applications and services. R2 has helped us fortify our layers, year by year."

Ryan Fernandes
Director of Technology

The challenge



Rapid Growth

Weston's users had more than tripled in a short period of time. Any solution must be scalable.



Sustainable Architecture

The underlying network, compute, storage, and security aspects must be properly taken care of first.



Cybersecurity Needs

Ransomware attacks posed a threat to municipalities. Weston had to be prepared for the worst.

The benefits

Intent-based networking and digital network architecture

Greater visibility and more network insights, through DNA and ISE

Automated, user-based security policy

Sustainable, resilient, high-performing network architecture

The solution

R2 proposed several technologies to address the challenges facing the City of Weston.

- A software defined access (SDA) solution, powered by Cisco DNA Center (DNA);
- Cisco StealthWatch, a best-in-class security solution;
- Cisco Identity Services Engine (ISE).

ISE and SDA go hand in hand to validate authentication. ISE is an application that interrogates the device when a user connects to a network, like: Who are you? Are you connecting from the device you say you are connecting from? Can you prove it? It then sends that information to the SDA, which is the topology built to interact with, control, and automate that authentication.

A major goal of the process was to adopt granular, user-based authentication as part of the SDA solution. A member of the marketing department working in City Hall one day could, ideally, go to work at the public works building the next day and have the exact same level of access they were used to. This would be the same whether workers were onsite at Weston municipal buildings, or if they were coming in over VPN while working remotely.

Weston had already set up VPN architecture for remote work, so R2 would have to connect those to the SDA fabric with minimal disruption.

The process

The first step of the migration process was to install the physical DNA appliance. Following that, R2 installed VM-based ISE nodes, as well as a VM-based appliance to run Cisco StealthWatch.

The fabric of an SDA solution

The fabric of an SDA solution has two main components, the fabric border and the fabric edge. R2 deployed two Cisco Catalyst 9500 switches as fabric border nodes, which doubled as control plane nodes. The city's then-existing core was a Cisco Nexus 5K, which was eventually replaced by a Cisco Fusion Router acting as a bridge between the fabric and non-fabric worlds.

Once that had been accomplished, border-to-fusion handoffs were configured and tested. One of the existing Catalyst 3850 switches was converted to a fabric edge switch. R2 followed up by installing and activating a fabric-enabled wireless controller, a Cisco WLC 5520. Access points were set up with fabric edge switches.

After the hardware had been deployed, all end-user devices—user desktops, IP phones, printers, and other miscellaneous devices—were onboarded onto the fabric. Network connectivity was tested for wired and wireless users. The same exercises were performed for all the other fabric edges at remaining locations.

Following the completion of these tasks, R2 took on the responsibility of managing the SDA solution as well as providing further help when needed. Says Ryan, "R2 is always predicting where we can grow and fine-tune."

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The results

A smooth transition amidst crisis

Weston had 100% virtual desktop infrastructure (VDI) 6 months before the COVID-19 crisis forced government workers home all around the country, resulting in very little effort to migrate to a full remote-work environment. "We were 100% online," says Ryan. "Users could submit a plan, check its status, and follow up online." Meanwhile, other municipal governments were having to adopt physical workarounds, like dropping plans off in converted garbage bins.

A diverse "toolbox"

As a managed services provider, R2 manages Weston's DNA, ISE, StealthWatch, and WLC appliances alongside the overall network environment.

"We have the ability to reach into the R2 toolbox, which has all these diverse talents, when we need them," says Ryan. "R2 already had a deep understanding of our underlying stack. They have the ability to see into the future and build upon our layers. If you do not think through the stack, you will have problems eventually. R2 has helped us fortify our layers, year by year."

Growing recognition

Thanks to R2's help, the City of Weston was able to save time and money, while giving its workers greater work/life balance. Foot traffic related to city business has been reduced 70%.

In 2019, The City of Weston was awarded the #1 Digital City ranking for population classification of under 75,000. This was a leap up from a #9 ranking in 2018 according to the Center for Digital Governments Annual Digital Cities Survey. Open to all U.S. cities, the survey selected national leaders in the Top 10 characteristics of a Digital City: Leadership Alignment, Citizen-centric, Efficient, Data Governance, Secure, Resilient, Staffed/Supported, Connected, Innovative, and Best Practices.

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Ryan Fernandes
Director of Technology

About R2

Working together is success. When you're a technology partner, it's not about what you sell. It's about how you deliver. Innovation, passion, and execution are the principles for which we hire, retain, and serve. Technology plays such a critical role in your business, and that's why you need a team that will approach IT differently. We do IT because we love it. Each and every one of us. Our team is eager to bring you more because at our core, we're committed to do right by you, our customer. Always.

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