City of Tomorrow Builds in Next-Generation Security

City of El Paso relies on Cisco ASA 5585-X Series to secure network to best deliver municipality's services.

EXECUTIVE SUMMARY

CITY OF EL PASO, TEXAS
- Municipal Government
- El Paso, Texas, USA
- 6,000 employees; 800,000 citizens

BUSINESS CHALLENGE
- Compliance with HIPAA, PCI, Criminal Justice Information Services (CJIS)
- Maintain uptime for employees and citizens
- Re-centralize IT functions for greater efficiency

SECURITY SOLUTION
- Cisco ASA 5585-X Series Next-Generation Firewalls
- Cisco Prime Security Manager
- Cisco Email Security Appliance (ESA)

BUSINESS RESULTS
- Firewall footprint reduced by 60 percent
- Ability to monitor public Wi-Fi and employee connectivity for improved service
- Most maintenance to be performed without firewall outages or IT overtime, saving 10 percent in employee time

Business Challenge

The City of El Paso is located in west Texas, serving a rapidly growing citizenry of 800,000. It is adjacent to a large U.S. military base. Just over the border, Juarez, Mexico, is home to more than two million people, many of whom come to El Paso to work, go to school, and dine. In less than two years, the City of El Paso's government has digitally reinvented itself to better serve its citizens and employees.

"Previously, we had many IT staff working inside different agencies within the City organization, with varying levels of expertise and security," says Miguel Gamino, former Chief Information Officer and Chief Innovation Officer, Dept. of Information Technology Services, City of El Paso, who has spearheaded the city's digital transformation. Gamino recently became Deputy Chief Information Officer and Chief Operating Officer, Dept. of Technology, City and County of San Francisco.

While centralizing IT purchasing, planning, and support, the IT Department also set its sights on improving services for both employees and citizens.

Until 2011, the City of El Paso experienced a range of IT challenges. Telephony services were suffering: as many as 100 calls a day were being dropped by the local tax office. The city also had many regulatory compliance requirements, due to its need to connect to the FBI's Criminal Justice Information Services Network (CJIS), with oversight by the National Security Administration (NSA); area hospitals, necessitating Health Information Portability and Accountability Act (HIPAA) compliance; and the recreation center and other departments that planned to accept credit cards for payment, therefore, needing Payment Card Industry (PCI) compliance. A big shift was needed to create a well-designed, compliant, and secure infrastructure.

Solution

In 2011, a new IT team for the City of El Paso looked at what other municipalities were doing and drew on their experience to design a new infrastructure. The team began with a pilot of Cisco® IP telephony on two floors of City Hall. When the pilot ended, the plan had been to expand to other floors. Instead, the team looked at the entire IT infrastructure citywide, and came up with a plan to rebuild the network, top to bottom. This plan became the foundational platform of the "City of El Paso Network Infrastructure Update" initiative, in collaboration with the Mayor's and City Manager's offices.

As a longtime Cisco routing and switching customer, the City of El Paso moved forward with bringing in a range of Cisco security products at the center of its business transformation. The city imperative was to improve access to and delivery of important services, supported by updated, streamlined, and secure network access. This project included a companion initiative, "Digital El Paso," to broaden the city's public Wi-Fi access in the direction to become ubiquitous.

"Currently, Wi-Fi is available in the downtown area, public libraries, fire stations, police department regional command centers, some parks and recreational centers, Judson F. Williams Convention Center, El Paso International Airport, community centers, Sun Metro public transit terminals, city buildings, and other locations," says Michael Valencia, Network and Voice Infrastructure Manager, Dept. of Information Technology Services, City of El Paso. "Soon we will have Wi-Fi onboard buses in the public transit system for anyone to use en-route."

In addition, the IT team is considering credit card payment options for city services, as well as integrating services from healthcare providers and city health offices, all of which are to be secured by Cisco security solutions.

For example, the plan is for families using the city's recreational pool facilities to be able to pay their entry fees with a swipe of a credit or debit card via a secure card reader. Traffic tickets and other services are expected be able to paid in a similar manner.

Additionally, local hospitals will be able to track and feed data securely back to the city's health department regarding the ailments for which people are treated. Similarly, the local drug stores will be able to provide buying information to the city, to see what medical purchases are being made, as part of a means to assess the health of its citizens, without compromising patient privacy. This information is expected be utilized to help determine government health benefits and to assess trends that can be assimilated into local, state, and federal program decision-making.

The city worked with Cisco and its partner, Sigma Solutions, to implement the new infrastructure. The team replaced the legacy phone system with a universal contract with Cisco, upgrading to a 2 GB public Internet service capacity, with reciprocal redundancy with El Paso County, providing operational and cost efficiencies.

"We wanted to deal with just one platform for LAN, WAN, Voice and Wireless," says Valencia. "Our team has a lot of experience with Cisco and has obtained several Cisco certifications. We know the platform and strength of its other network and security products, and Cisco support has been a godsend."

The city adopted a policy for standardization on Cisco and defined its first security policy. A chief security officer position also is being added.

> "If we were going to take this project on, we were going to apply all the best practices. There is no doubt that Cisco is the foundation for this massive undertaking."
> **— Miguel Gamino, Former Chief Information Officer and Chief Innovation Officer, Dept. of Information Technology Services, City of El Paso**

"We made a conscious decision to standardize our digital infrastructure on Cisco," says Gamino. "It is part of our big picture value to El Paso, bringing together the most comprehensive, integrated, and collaborative solutions, starting with the network and security, and extending to Voice over Internet Protocol (VoIP) and collaboration technologies, such as the WebEx Social platform."

The City of El Paso installed Cisco ASA Next-Generation Firewalls to protect its expanded external connection. The new network's strong levels of security will help meet compliance standards needed for its connections to hospitals and to the Texas Department of Public Safety, as well as for processing credit card payments for city services in the future.

"The ASA Next-Generation Firewalls have been solid," says Valencia. "They provide an active standby solution that immediately recognizes and reacts to when one has stopped. Because they combine multiple functions in one firewall, we were able to replace five firewalls with two, which means less maintenance and support needed from us."

The City of El Paso also uses Cisco ASA Next-Generation Firewalls internally for the Department of Public Safety. Cisco AnyConnect® Secure Mobility VPN is used for an extra measure of security in wireless access by employee devices, primarily in the city's legal and purchasing departments, and the executive offices. To monitor its new state-of-the-art public Wi-Fi, the team uses Cisco Prime™ Network Manager to assess network traffic, which averages 10,500 people daily.

Cisco TelePresence® is expected to be used to enable citizens and other stakeholders in remote locations to participate in city council meetings. Cisco WebEx® Social will be leveraged to facilitate collaboration between city departments, as well as to the public they serve. Cisco Identity Services Engine (ISE) is being explored to secure the network device endpoints.

"At the end of the day, we got the best of all worlds: a Cisco unified platform, great service, and the security to deliver a higher level of services," says Valencia.

PRODUCT LIST

Security
- Cisco ASA 5585-X Next-Generation Firewall
- Cisco AnyConnect Secure Mobility Client
- Cisco Email Security Appliance (ESA)
- Cisco Prime Security Manager
- Cisco Secure Access Control System

Routers and Switches
- Cisco Catalyst® 3750 Switches
- Cisco Catalyst 2960 Series Switches
- Cisco Catalyst 4500 Series Switches
- Cisco 1000 Series Aggregation Services Routers (ASR)
- Cisco 2900 Series Integrated Services Routers (ISR)
- Cisco 3900 Series Integrated Services Routers (ISR)

Data Center
- Cisco Unified Computing System™ (UCS®)

Collaboration
- Cisco WebEx Social
- Cisco TelePresence
- Cisco Jabber®

Cisco Voice and Unified Communications
- Cisco IP Telephony
- Cisco Call Center
- Cisco Emergency Responder

Business Results

In just 18 months, the City of El Paso has realized a vast transformation in its ability to serve its citizens and visitors, securing their network to provide a broader array of services, streamline operations, and significantly reduce expenditures.

As the initiatives continue to unfold, the city already has put into play new, secure, and speedier access to city services. It soon will enable citizens to securely pay for routine public services via credit card and plans to have secure Wi-Fi access from anywhere in the city, no matter their device of choice: smartphones, tablets, or laptops.

At the core of the city's security footprint is the Cisco ASA 5585-X Next-Generation Firewall to protect its two data centers. The Cisco ASA 5550 protects the city police department as well as the Department of Public Services in its communications with federal agencies. Additionally, the ASA 5505 is used to secure the parks and recreation, fire, and senior services departments through a full virtual private network (VPN) tunnel.

The city's health department will be able to communicate with the area's health providers and hospitals, securely sharing information to expedite medical procedures and track the health of the community, as it is tied to federal funding.

Additionally, the city has saved 10 to 12 percent of US$56-million in related IT projects, while centralizing administration and improving service delivery, network availability, and security. It also has realized a savings of $4-million in consolidating IT contracts, and it is projecting $1.3-million annual savings with consolidated phone services.

For More Information

To learn more about Cisco ASA 5585-X Series Next-Generation Firewalls, please visit: http://www.cisco.com/go/asa.

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