



Enabling daily life in a coastal city

The City of Encinitas keeps residents safe and engaged with 24x7 remote connectivity

The City of Encinitas manages public services so efficiently that residents aren't aware of the technology that makes their lives easier. The COVID-19 pandemic prompted a move to a virtual desktop infrastructure that ensured the city could continue to deliver vital services to residents 24x7, no matter where workers were located.

Powering every facet of city life

The average resident in the City of Encinitas has no idea that as they go about their daily life — driving around town, surfing at world-renowned beaches, and enjoying safe drinking water — a complex technological infrastructure enables their activities.

The City of Encinitas prides itself on the secure, uninterrupted availability of a wide range of services and operations, ensuring public access to government resources and information, while making life safer for the city's 60,000 residents. The city's residents are kept abreast of any events, emergencies, or other important information through the MyEncinitas smartphone app.

"We manage and support systems around the city, covering multiple coastal agencies and departments," says Neil O'Connor, IT operations and engineering supervisor for the City of Encinitas. "We're working behind the scenes to make sure traffic lights work properly, firefighters in three different cities are staffed and can collaborate with each other, beaches are safe, and people can access the information they need online, whether it's to register for a class or search for a job." He adds that the Encinitas Fire Department uses VDI empowered Thin Clients, so the IT team can remotely manage and provide services with limited staff.

Keeping people safe also involves keeping sensitive systems secure. The City of Encinitas had to put a solution in place to protect citizens' sensitive information and the city's vital systems from cyberattacks. For example, the city supports the San Dieguito Water District (SDWD) and San Elijo Joint Powers Authority (SEJPA), which provide potable and recycled water to over 66,000 citizens, managing the hardware and software systems that ensure dirty water is kept separate from the clean water supply. "This is critical to the city's infrastructure," says O'Connor. "We ensure their system doesn't get hacked."

"We work behind the scenes to make sure traffic lights work properly, firefighters know when there's a fire, and people can access the information they need."

- Neil O'Connor, IT Operations and Engineering Supervisor for the City of Encinitas

SDWD uses supervisory control and data acquisition (SCADA), a category of software applications for controlling industrial processes to manage water systems. The IT department is currently working with SDWD staff to virtualize the aging standalone servers. IT purchased several HPE ProLiant servers and an HPE MSA to utilize VMware® with the storage system. This will make administration and maintenance much easier, while also securing the solution against any cybersecurity threats.



Vision

Ensure the secure and reliable delivery of critical public services while enabling a hybrid workforce.

Strategy

Accelerate the transition to a more robust storage and compute infrastructure environment that supports an increasingly connected city.

Outcomes

- Enables residents to stay connected during events and emergencies
- Frees IT staff from managing hardware maintenance
- 5% of desktop computers replaced with VDI Thin Clients

Keeping parks beautiful and providing safe water

The city's central IT department supports a wide range of agencies that facilitate community activities, protects the environment, and enhances the quality of life in the city. Residents enjoying a weekend hike or picnic, for instance, probably have no idea that the city's parks rely on an irrigation system that is connected to the computers at the Parks Department, which in turn depends on the city's centralized IT infrastructure.

The city supports other government entities, such as the San Elijo Water Reclamation, which provides safe and reliable recycled water and wastewater services to the cities of Encinitas, Solana Beach, and Del Mar. "We support San Elijo's virtual infrastructure to make sure pipes don't get affected and raw sewage isn't running out into the water, which can affect the water at the beach," says O'Connor. "That's something critical that we manage."

Clean beaches and pristine water are essential to the City of Encinitas; located on the Southern California coast in San Diego County, the city is known for its beautiful beaches and laidback, small-town feel. It's this reputation that led National Geographic to name Encinitas as one of the 20 best surf towns in the world in 2012.

The city's beaches don't just offer great surfing with a relaxed vibe — they're safe too. Cameras installed on the beaches monitor surf conditions and residents can

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receive timely notifications, so they know whether it's safe to be out on the ocean. The city's IT team helped set up and network the cameras.

Lifeguards are also equipped to keep beaches as safe as possible. "Lifeguards use HP laptops to connect to the remote Horizon that uses HPE SimpliVity," says O'Connor. "All VDI sessions are run on HPE SimpliVity."





Changing needs during the pandemic

With the city's IT department functioning as a central repository that powers several departments — which all leverage centralized technological support and resources — a reliable and secure IT environment is a top priority. The City of Encinitas needed protection from the ever-looming threat of cyberattacks; following a minor security incident, it was clear a new solution was needed, and staff started the process of upgrading the city's IT infrastructure.

The onset of COVID-19 accelerated the digital transformation that was already underway. Suddenly, city workers were forced to work remotely, and citizens had to rely on being able to access important services online.

"When the pandemic hit, IT had to scramble and figure out the quickest solution to get all our staff access for working remotely," says O'Connor. Before the pandemic, many customers would access city services in person. But this was no longer possible once shelter in place orders prevented people from leaving their homes and forced workers online.

"This pushed us toward offering online services so residents could help themselves and wouldn't have to come into the city during COVID," says O'Connor.

An upgraded solution saves time and money

The pandemic fast tracked the implementation of a storage system and compute environment that could meet the city's changing needs, such as an increased need for virtualization. Working with Hewlett Packard Enterprise and partner Nth Generation — which has expertise providing IT services to the public sector — the city deployed a solution that included a hyperconverged infrastructure leveraging HPE SimpliVity and HPE ProLiant servers.

Residents who use the City of Encinitas' online services for everything from finding a job to registering for a class, interact with systems that run on HPE ProLiant servers. "Residents can also check city council meeting agendas, archived webcasts, public notices in case of an emergency, and the latest COVID-19 information — all from the comfort of their home," says O'Connor. All these activities are possible from home because of the HPE ProLiant servers.

The city also deployed HPE SimpliVity with VMware Horizon® so users could remotely access their desktop PCs or VDI session during the pandemic. "We had to figure out how to route important calls for people who answer the phones, and we had to make sure this was all secure," says O'Connor.

The upgraded solution includes HPE Nimble Storage, for hosting all the applications, and HPE iLO, which enables users to configure and administer their servers remotely. These functions include updating firmware, checking device status, and installing and deploying servers, all while providing high-level security.

Upgrading the IT infrastructure environment has led to cost savings thanks to reduced hardware costs, as mobile devices such as laptops have replaced desktops.

Another benefit has been time saved for IT staff, as the new solution requires significantly less maintenance. "It's easier to manage so staff can now be at their desks rather than running around dealing with physical hardware," says O'Connor. "Now they have more time to work on other projects and engage in training."

This improvement has led to happier employees. "When our customers are happy, the IT guys are happy," says O'Connor. "And when systems are running faster, there are fewer outages and people have more time to work on other projects — it's a big boost to morale."

Improving cybersecurity with a trusted partner

Throughout the move to the upgraded solution, IT staff relied heavily on hands-on support of long-time partner Nth Generation, which acts as a virtual CSO to the organization's IT department. The partnership with Nth Generation spans 11 years.

"We're a smaller IT shop and we wear a lot of hats — we can't be experts in everything," says O'Connor. "So, it's been critical to have Nth as a partner in different areas. They help us with all the HPE configurations and upgrades. They're like a part of our department. We rely on them heavily and they do a great job."

Nth Generation has also helped the IT department build its cybersecurity program after the public works department was hit by a ransomware attack. Implementing the new program involved aligning the organization with a cybersecurity framework that targets specific threats.

"It's been great having Nth's technical knowledge and learning about the latest trends and technologies to defend against cyberattacks," says O'Connor.



Preparing for the future, providing great service

As the City of Encinitas looks to the future, O'Connor envisions moving toward a hybrid work environment, similar to other cities in Southern California.

"Working toward hybrid would be great — there would be less traffic, which would benefit our residents," says O'Connor. "Using a modern high performance HPE designed solution would allow for multiple users to be serviced in real time."

For now, the focus is on making proactive improvements as needed, while continuing to provide unparalleled service to both government departments and residents.

"Our goal is to keep the city up to date with the latest state-of-the-art technology," says O'Connor. "We want to provide residents with an accessible, easy system for city services, secure our SCADA water environment, and make sure our staff has applications and systems that are fast, reliable, and have no downtime."

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