



Notruf Niederösterreich Achieves Flexibility in Operating Emergency Control Centers

Notruf Niederösterreich (NNÖ) manages all emergency and health service calls in Austria's largest state and is the first control center to enable staff to connect remotely. The service also took charge of coordinating vaccination and testing appointments during the pandemic.

Industry

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Bechtle GmbH has a nationwide presence in Austria with around 300 employees based out of Vienna, St. Pölten, Linz, Graz, Gleisdorf, Innsbruck and Götzis. A team of certified consultants manage a large number of enterprise, mid-market and public sector organizations. Bechtle offers a wide range of manufacturer-independent infrastructure and locally hosted services for smooth IT operations.

VMware footprint

- VMware® Horizon®
- VMware vCloud Suite®
- VMware vRealize® Suite
- VMware vRealize® Cloud Management™

Emergency call-handling specialist NNÖ has pioneered the use of IT among emergency service providers in all nine Austrian provinces and throughout Europe. All NNÖ workspaces are based on VMware technology, including VMware Horizon, which saves both money and time. This solution also enables the service to flexibly scale and guarantee operations of its control centers and Voice over Internet Protocol (VoIP) telephony systems. NNÖ is currently developing add-ons to its control center system using Google and AWS clouds, which will be deployed in a containerized environment.

Centralized control center systems and telephony

Founded in 2003, NNÖ operates the emergency command and control center in Lower Austria, the country's largest state by area. Based on four sites, the center manages calls from around two million residents and travelers to the Emergency Medical Service, Mountain, Water and Cave Rescue, and a range of other services, including nurse triage.

The foundation of NNÖ saw these operations centralized and merged with the emergency control centers networked and equipped with VoIP. Centralized technology led to individual sites no longer having their own servers, but routers, switches, PCs and telephones. NNÖ runs the emergency call system data center in St Pölten, while the telephony infrastructure is hosted by local carrier A1.

“If two million people all want to get tested on the same weekend, we need to be flexible and able to use the cloud as a backup. If the system then crashes, only the cloud solution is affected, and our core VMware operations are untouched.”

Alexander Hopfgartner, Head of IT, Notruf Niederösterreich



The world's first emergency control virtual workspaces

For those seeking help, every minute saved when waiting for emergency services can be critical. Unreliable communications, system downtime and lack of access to key information were already barriers to achieving this, even without the arrival of the pandemic. Prior to the pandemic, the four sites of NNÖ had 50 physical workspaces, the back office and selected employees. When COVID-19 struck, the workload and responsibilities of NNÖ grew exponentially. It had to rapidly increase the number of workstations to over 100, while enabling staff that could work remotely to do so. NNÖ was also called on to help manage and deliver Lower Austria's COVID-19 testing and vaccination program.

Alexander Hopfgartner, head of IT at NNÖ, first encountered VMware at a conference. "I was at VMworld, and I had looked at Horizon and kept it in mind," he says. "I remembered it again when a matching requirement arose." Having already implemented it for back office and some individual employees, COVID-19 provided the opportunity for Hopfgartner to dramatically extend the Horizon implementation.

Hopfgartner and the IT team at NNÖ realized that the solution to enabling remote work was to set up remotely connected control center workspaces, and although Hopfgartner has been using similar workspace models ever since, at the time this innovation was the first of its kind in the world.

Flexible workspaces enable emergency responses, testing and vaccination

Although NNÖ now has over 100 staff on duty during peak periods, only essential operating teams work onsite; the rest work remotely, taking and managing all types of requests, including emergency calls. "Today, employees are often deployed fluidly. When additional call takers are required due to quarantine or high call volumes, we can configure and deploy them very quickly," explains Hopfgartner.

NNÖ runs its back office with a 30-strong team using Horizon, giving it the flexibility to scale up to 150 staff working simultaneously, around half of whom work remotely. Call takers can also access Horizon virtual apps and desktops from home, enabling strict data security criteria to be met. Hopfgartner says, "We are always working with critical medical and personal data that requires protection. It is essential that VMware Horizon simply displays the data, and that the data itself remains within the organization."

NNÖ has also been coordinating Lower Austria's vaccination and testing program, using virtualized web services that are also accessed by health departments, PCR laboratories and authorities. Around 1,450 call takers record each case and grant official COVID-19 tests by mobile or stationary facilities for each suspected case. The data is forwarded to the authorities at the same time.

On an ambulance, incidents are supported with utility routines and are clearly documented, while iPads enable ambulance crews to access data from Horizon virtual apps and desktops via the control center system. Horizon has also helped NNÖ develop two iPad apps, one to navigate to the incident location and supply operational documentation, and another for the medic's device, providing medical documentation and access to key information relating to the incident. The app can be used even on the medic's personal smartphone.

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Every minute counts when it comes to emergency services

For NNÖ, platform availability and stability can literally be a matter of life and death, so 100 percent availability of Horizon ranks alongside security and scalability as an essential feature. Each component is replaced every five years without disrupting ongoing operations. Hopfgartner explains, “All other companies have half-hour maintenance windows, during which everything is shut down and can be replaced. That would be impossible for us. Everything has to be operational at all times.”

NNÖ has trained its own staff in all control center tasks and operates 99 percent of the infrastructure independently. It has also developed a web platform to coordinate testing and vaccinating, with external staff accessing applications for use by authorities, and testing and vaccinating workers. Horizon enables this application to be powerful, secure and scalable, but also device-independent; any user can access it through iOS, Android or Windows on virtually any device. According to Hopfgartner, this requires a multi-cloud approach that could not be achieved through conventional application management. “I deploy the latest version on a web platform and can access it online. It couldn’t be easier,” he says.

NNÖ uses AWS and Google API services for cloud development and deployment. “That is where we manage web services for vaccinations and tests, because it is easier to scale. We can purchase resources for a week when needed, and then scale them down again,” says Hopfgartner. Compute and storage solutions were used for development, and while the IT team could have run these on its own systems, estimating loads would have been difficult. The multi-cloud VMware vRealize Suite, with its mix of public and private cloud, was therefore an effective solution.

Hopfgartner explains, “If two million people all want to get tested on the same weekend, we need to be flexible and able to use the cloud as a backup. If the system then crashes, only the cloud solution is affected. Our core operations are untouched.”

Other concerns for NNÖ revolved around redundancy; however, with VMware vRealize Cloud Management, workloads and the entire application portfolio can be seamlessly provisioned, monitored, protected and optimized over several clouds. NNÖ therefore benefits from rapid service, greater efficiency and improved security and compliance. “We will never move fully to the cloud, as we have to be able to continue to function in the event of a blackout. And with VMware servers on site, we can do precisely that.”

“Our employees are ultimately happy when they can simply do their job because the system is available and operates quickly and securely. Thanks to the system, we have raised our overall availability.”

Alexander Hopfgartner, Head of IT, Notruf Niederösterreich

Looking ahead

NNÖ has done its job if rescue teams arrive in time to save lives and get patients to safety, and seamless access to centralized data is crucial in achieving this. The platform also means employees can work shorter shifts from home, especially for those for whom the commute would be longer than the shift itself. This makes NNÖ an attractive proposition for part-time workers and single parents.

Hopfgartner is now looking to build on Horizon with VMware Tanzu® Kubernetes Grid™. However, he insists that employees are ultimately happy when they can simply do their job, because the system is available, and operates quickly and securely.