SUCCESS STORY | HOLSTEBRO KOMMUNE

HOLSTEBRO MUNICIPALITY BOOSTS EMPLOYEE ENGAGEMENT WITH NVIDIA GRID

Holstebro Kommune: 2017

NVIDIA

Holstebro Municipality boosts employee engagement with NVIDIA GRID

HOLSTEBRO KOMMUNE
BY THE NUMBERS

Percentage of applications virtualised

99%

Locations hosted in a single virtualised environment

150

Improvement in CPU utilisation

70%

Holstebro is one of the oldest market towns in Denmark. It is a thriving industrial and cultural centre in western Jutland and has been voted Denmark's best and most beautiful trading city. With a population of over 58,000, the Municipality of Holstebro is responsible for engaging citizens and ensuring their well-being; it's the role of the staff at Holstebro Municipality to ensure services and support are consistently being delivered.

CHALLENGE

With 3,776 full-time employees and another 1,700 part-time employees, the Holstebro IT department serves a diverse group of employees. When complaints about user experience started to increase, the Municipality found itself needing to review its IT infrastructure to better serve the ever-evolving needs and expectations of the citizens and staff of Holstebro Kommune. Tommy Stylsvig Würtz Rasmussen, IT specialist at Holstebro Kommune, and his staff realized that improvements needed to be made to the infrastructure to enable a better working relationship between management and employees, as well as delivering services more quickly and efficiently. This refresh of the infrastructure fed into Rasmussen and his team's belief that "when we thrive, we can do our best work to benefit our citizens."

Rasmussen's team was receiving regular complaints that common applications like YouTube, Internet Explorer and Google Chrome were not performing well.

CUSTOMER PROFILE

HOLSTEBRO KOMMUNE

Organization	Industry	Location	Employees	Website
Holstebro Kommune	Government	Western Denmark	5,500	https://www.holstebro.dk

SOFTWARE

Hypervisor: XenServer with Citrix XenApp and XenDesktop

Graphics Acceleration: NVIDIA GRID Virtual PC and Virtual Apps

HARDWARE

Server: Cisco UCS

GPU: NVIDIA® Tesla® M6 and M60

When Rasmussen, took a closer look at the causes for this degraded user experience, he could see that the server CPU load was nearly 100% for many of the virtual applications and desktops his team supported. The increased demand for CPU resources was coming from modern applications and web browsers that use interactive content leveraging newer standards like Web GL and deliver multi-media content, including streaming video and audio and embedded ads that use active content.

Rasmussen and his team have been embarking on extensive upgrades of their end user computer platform, a virtual desktop and virtual application platform built on the Citrix platform, every five years. However, their growing needs meant that they opted for a complete replacement of their existing platform.

"We chose to move forward with NVIDIA GRID because it's designed to deliver an improved user experience across PC and mobile devices and was able to support both are virtual desktop and virtual application environments. "

Tommy Stylsvig Würtz Rasmussen
IT specialist at Holstebro Kommune

SOLUTION

With two thirds of the Holstebro Kommune employees working from a thin client and only a third connecting via a laptop, he needed a solution that could deliver every user a native, PC-like experience. In addition, with Holstebro staff based in 150 locations, the new virtualization platform would also need to deliver an incredible experience and allow people to work in their own way, from anywhere.

Working closely with Danish IT specialist Conecto, the solution Rasmussen and the team opted for was a complete replacement of the older virtualization platforms to a modern one supported by the NVIDIA GRID products, GRID vPC and GRID vApps. The updated Holstebro virtualization platform includes Windows 10 to run the VDI environment and Windows Server 2016 to run their XenApp environment. "We had been working with Conecto for a few years already and really admired their skills and experience. When they showed us the NVIDIA GRID partnership with Citrix we knew it was the right solution for us – we hadn't seen anything else in the marketplace that could meet our needs." explained Rasmussen. "We chose to move forward with NVIDIA GRID because it's designed to deliver an improved user experience across PC and mobile devices and was able to support both are virtual desktop and virtual application environments."

Before finalizing this important decision, however, Rasmussen wanted to be sure the solution would meet the requirements of the Holstebro employees, so he tested their Windows 10 VDI environment with and without a GPU for standard office applications, and Chrome and IE browsers. The VDI environment with a GPU saw up to 70% improvement in CPU utilization.

Describing their reasons for choosing NVIDIA Rasmussen explained: "The way we work is changing and the workplace is becoming more digital. This means the applications we use to do our jobs such as Chrome, Microsoft and Firefox demand more GPUs. In particular, Windows 10 and modern applications increasingly demand levels of graphics performance and user experiences that legacy desktop and application virtualization can't support. With NVIDIA GRID we can bring graphics acceleration to the data centre, enabling the benefits of virtualization while also delivering an unparalleled graphics performance and user experiences that rivals the physical desktop."

"I was blown away with the implementation of Windows 10 VDI and XenApp with NVIDIA GRID. I always assumed there had to be performance/density trade-offs - the more users you support on the system, performance would degrade. But with NVIDIA GRID, we got the best of both worlds. With tasks now offloaded to the GPU, we were able to lower CPU utilization, ultimately giving our virtualized users a consistently great experience while supporting more users on the server."

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RESULTS

Overall, the new IT infrastructure allows the municipal employees to focus their valuable time on the needs of the town's citizens, get quick access to relevant information from any location and keep citizen data secure in the data center.

Rasmussen's team felt implementation was as simple as plug and play – the Cisco servers bought came with the NVIDIA Tesla GPUs installed. All they had to do was to install XenServer, switch the GPU to graphics mode and install the driver. To the user it's completely transparent. And even during peak hours of around 1,100 concurrent users, all they see is things are working as expected.

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With reduced CPU load, Holstebro employees are able to run HD videos smoothly when for instance watching town hall meetings or training videos, create user guides on YouTube easily, and video conference with their colleagues who are situated in different physical locations. The Municipality was also able to solve the increasing demand for creating video tutorials to help managers with training and learning development. Using Windows 10 coupled with NVIDIA GRID and Tesla GPUs enables the team to deliver a PC-like user experience that even includes video editing and playback. This is all made possible because the video-related workflows can be off-loaded to the Tesla GPU by the NVIDIA GRID software, freeing up CPU resources and resulting in better performance and improved user experience.

This has raised the bar not only on employee productivity but also on employee morale as the new solution has had a great benefit on the way employees work. For example, employees that work remotely or require a flexible office because of family needs, have become a lot more productive and efficient. Staff can work from anywhere and at any time, freeing them

5 REASONS FOR NVIDIA GRID

- 1 Needed to bring together employees from 150 different locations in a single virtualization environment
- 2 Needed to address increasing graphical demands of modern productivity applications and Windows 10 which desktop and application virtualisation alone cannot support
- 3 Wanted to quickly deploy thin clients to new users and enable them to access any application securely
- 4 Needed to improve performance and user experience in "everyday" office applications
- 5 Wanted to lower latency on modern business applications like streaming video and social media

to work closer with the community they serve. In addition to increasing mobility, the new digital workplace environment enables all citizen information and records to be maintained digitally, decreasing dependence on paper records that can be stolen or lost and creating a reliable, secure single-source of record. Finally, collaboration across municipality teams and offices has increased since they can share any information, even videos, easier.

"The technology department, responsible for the video content, has been a huge success story," says Rasmussen. "With the NVIDIA GRID virtualization solution, employees don't need to keep coming back to the office after filming. Now they can even do video editing and playback from their virtualized desktops, from anywhere."

Together with NVIDIA and Conecto, restructuring Holstebro Municipality's IT infrastructure has helped improve efficiency, the wellbeing of staff and expedient services to its citizens.

LOOKING AHEAD

Upgrading their legacy virtualization platform with NVIDIA GRID enabled the municipality to virtualize 99% of their applications with increase in user satisfaction. "The best part is, I don't hear from users, and that means they are happy," says Rasmussen. With the tremendous success of the initial phase of VDI deployment, the municipality plans to continue using GPUs for virtualization for all users going forward.

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