Rimac Automobili

CASE STUDY

"We love intuitive, intelligent solutions. Our CAD/CAM engineers now have access to applications and resources from anywhere, anytime, which is extremely important for business continuity."
Dubravko Hlede, IT Manager, Rimac Automobili

Web site:
rimac-automobili.com
Industry:
automotive industry / technology
Partner: Combis
Partner web site:
combis.hr

Challenge:
Virtualization of powerful graphics stations for CAD/CAM engineers.

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The company was founded in 2009 by Mate Rimac with the vision to create the sportscar of the 21st century, firmly believing that electric propulsion systems can be used to power the new generation of sports cars and can make them better, faster, and more exciting. The first Rimac model the Concept_One, is known as the first electric hypercar in the world.

While manufacturing and marketing high-performance vehicles under its own brand, Rimac also develops and produces battery packs, drivetrain systems and full vehicles for other companies such as Aston Martin, Porsche, Hyundai, Koeingsegg and others. In 2018, the company introduced the next generation hypercar, the C_Two, the most technologically advanced vehicle in the world. The company today employs more than 700 people and has grown into a leader within a highly competitive industry with the ambition to become a full electrification partner for many OEMs.

Challenge:

Scalability, optimization, power, and security – these words best describe requirements that need to be fulfilled so today's engineers could operate with graphics-intensive applications.

CAD/CAM (Computer-Aided Design And Manufacturing) software like Catia and 3DEXPERIENCE require powerful CPUs and graphics capabilities, and such workstations are difficult to procure. It usually takes several months to procure this type of equipment, and in situations such as the COVID-19 crisis, when the delivery of any hardware, especially specialist, is almost completely stopped, this challenge becomes even greater.

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„We have opted for the VMware vSAN storage virtualization solution due to a hyper convergent infrastructure (HCI) that connects compute, storage and network resources on standard servers and uses software to integrate cluster resources with unique software as a solution for virtualization of storage and compute resources. Then we installed the VMware NSX platform for virtualization of network resources on the vSAN infrastructure, thus obtaining a Software-defined Data Center, and on it, we built a VMware Horizon solution, which enables the management and delivery of virtual desktops and applications to end users", said ***Igor Dužević*** *Director of Professional Services and System Integration Division at Combis.*

CAD/CAM software licenses are very expensive and of course must be strictly controlled to optimize costs, while ensuring quality of user experience. Rimac Automobili is growing very fast and increasing the number of employees by more than 100 every year, so it is a big challenge to introduce new employees to the business in a short period and provide them with everything they need for work.

During the COVID-19 crisis, most employees (over 700) worked from home and it was necessary to enable their uninterrupted work in a very short period, while ensuring the same user experience and high security standards.

An additional challenge for Rimac Automobili is certainly the large number of external partners from all over the world who also need daily access to the company's resources.

Solution

Given the complex requirements of Rimac Automobili, Combis offered its expertise to connect several different solutions from partner companies VMware, HPE and NVIDIA, and successfully integrated them to ensure the delivery of personalized graphic virtual workstations to CAD/CAM engineers, from any location and from any device.

For other employees who do not need CAD/CAM specialist software, Windows 10 VDI workstations without graphics cards are assigned.

Within the overall solution, Nvidia V100 server graphics cards are installed in physical servers that allow scaling and management of the graphics load on Horizon workstations via the Nvidia GRID system.

Benefits

The biggest advantage for the user is the uniqueness and integrity of the solution, which provides HCI infrastructure with higher performance than classic hardware solutions, along with best VDI solution on the market and security guaranteed by one of the strongest SDN solutions. If we add to that, the graphics of the largest graphics card manufacturer - we really got ourselves a winning combination", said **Saša Burić**, Business Development Manager and EUC Team Lead from Combis.

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„Combis has already confirmed its expertise many times through numerous VDI projects in Croatia and abroad and has several official certificates of expertise in the field of network virtualization, the last in a series is the VMware Network Virtualization Solution Competency. Prerequisites for achieving this status are an extensive education process and the acquisition of a valuable VMware Certified Professional-Network Virtualization certificate, which guarantees enviable knowledge for the world's leading virtualization platform VMware NSX.", said ***Igor Dužević****.*

Integrity - simplified management

VMware Horizon uses comprehensive workstations management and it is optimized for Software-defined Data Center, while safely storing corporate data in the data center. For administrators, this means that workstations and applications management is simplified and automated.

Administrators can quickly create virtual desktops on demand, based on location and profile, and safely deliver Desktop as a Service from a central location. End users can access their personalized virtual desktops or remote applications from devices such as: company laptops, personal computers, thin client devices, Mac computers, tablets, or smartphones.

Security - fast and secure access

VMware NSX platform for virtualization and network security, separates the network function from physical devices, in a way analogous to the separation of virtual servers from physical servers. To separate the new virtual network from the traditional physical network, NSX is re-creating traditional network components in virtual space, and those components include ports, switches, routers, firewalls, and all other standard infrastructure elements. VMware NSX enables the implementation of advanced network and security functionalities in a software, as part of server virtualization. All network components can be secured in just a few minutes without the need to modify the application itself.

Plans for the future

„We are extremely satisfied with the cooperation with Combis and the implemented VMware solutions, so we plan to expand the system to all employees. Additionally, we plan to virtualize additional desktops: the VDI for engineers working on production processes and other positions within the company, and for our external partners", said **Dubravko Hlede**, IT Manager at Rimac Automobili.

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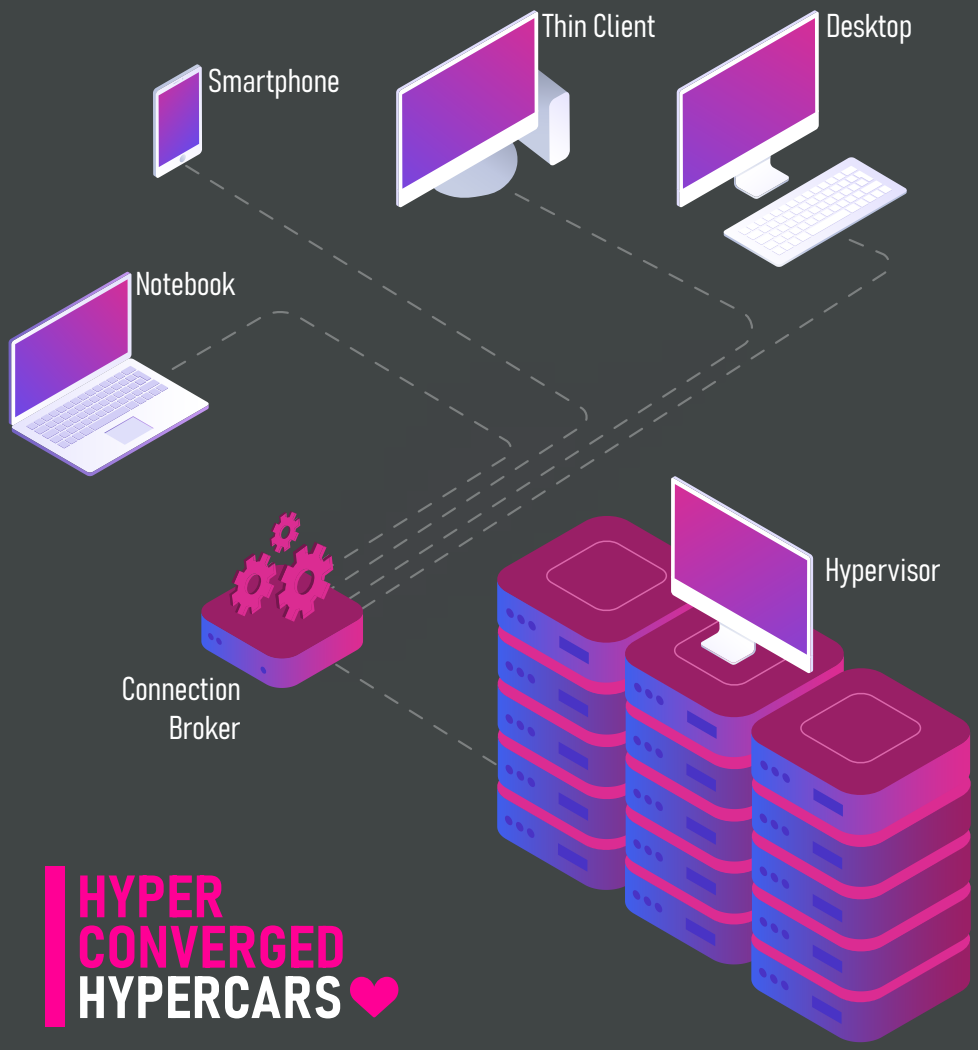
Combis has a huge experience in the preparation, implementation, and maintenance of VDI technologies, which includes over 25.000 virtualized workplaces.



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