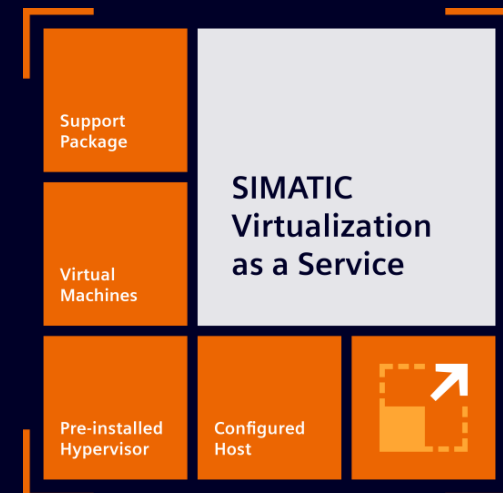




SIMATIC Virtualization as a Service

Future-proof modernization



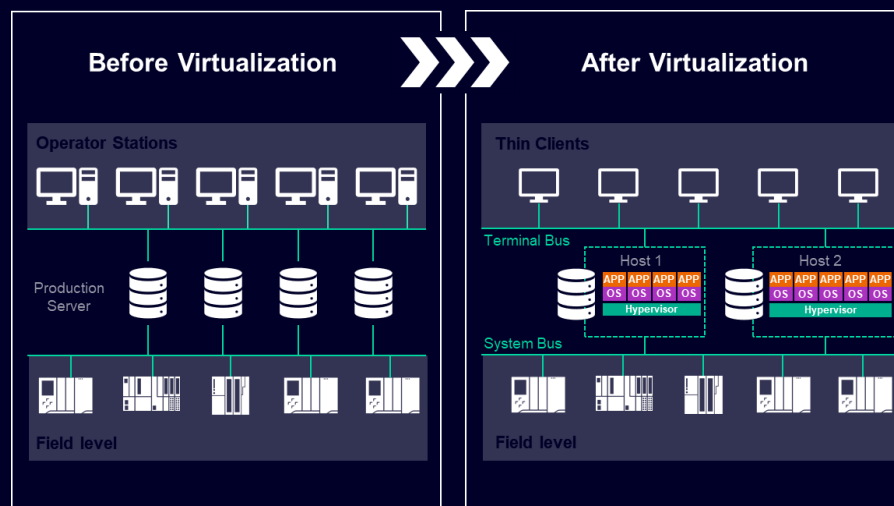
Future-proof modernization with SIMATIC Virtualization as a Service



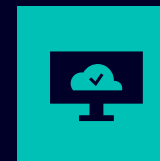
- **Module – Configured Host:** Host and management console
- **Module – Pre-installed Hypervisor:** Installation and configuration of the virtualization layer
- **Module – Virtual Machines:** Delivery of a virtual machine ready for operation
- **Module – Support Package:** Includes pre-installation and configuration of the server, Technical Support, system documentation and After-Sales-Service

Solution and Service

SIMATIC Virtualization as a Service is a future-oriented virtualization technology including suitable software and host components as well as services throughout the entire lifecycle. Everything from a single source – with all components working together in harmony.



Your value



System-tested and pre-configured virtualization platform for industrial systems



Cost reduction due to energy/space savings and optimized maintenance/modernization



100% lifecycle services from a single source

Innovative concepts for the optimized maintenance and modernization of PC-based control systems are key

Operative challenges

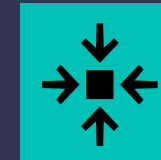
- Apart from the preventive maintenance of the host platform, it is particularly the maintenance and care of the installed software components which is decisive for the lifecycle costs of a PC-based control system.
- The integration of IT-technologies into the industrial environment enables innovative concepts here as well, such as system virtualization.
- System complexity is increasing - at the same time specific know-how is getting scarce, and resources are limited

Innovative concepts like virtualization can reduce lifecycle costs and simplify modernization of PC-based control systems.

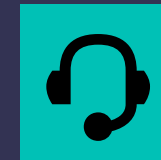
Required solution



Cut lifecycle costs



Simplify complex system updates and system expansions



Fast, reliable service and support

Efficient resource optimization with virtualization

Use Case scenario within lifecycle

- You are running multiple devices with a one-to-one mapping of physical servers to specific applications or services at your production site and you want to work more efficiently
- You face high maintenance and care of installed software components

Challenge

- Physical servers often operate at low levels of utilization
- Software updates, patch management and resource allocation require high efforts and are prone to error
- Operating a larger number of physical servers results in higher energy consumption, increased cooling requirements and a larger carbon footprint

Virtualization of production applications

Challenges in virtualizing your Control System



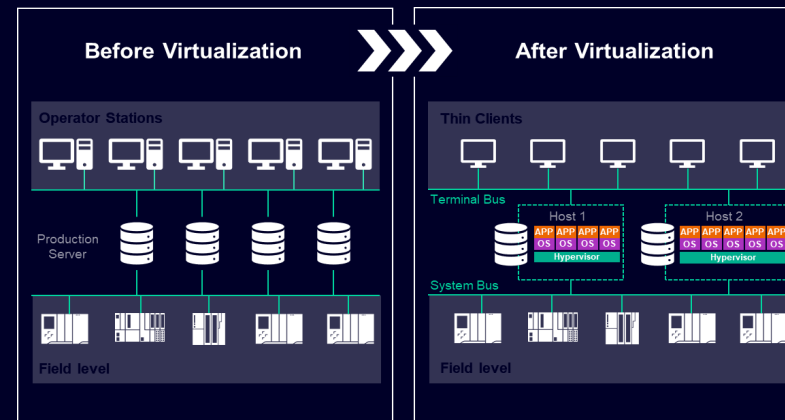
Future-proof modernization with SIMATIC Virtualization as a Service



Solution and Service

SIMATIC Virtualization as a Service is a future-oriented virtualization technology including suitable software and host components as well as services throughout the entire lifecycle. Everything from a **single source** – with all components working together in harmony.

- **Module – Configured Host:**
Host and management console
- **Module – Pre-installed Hypervisor:**
Installation and configuration of the virtualization layer
- **Module – Virtual Machines:**
Delivery of a virtual machine ready for operation
- **Modul – Support Package:**
Includes pre-installation and configuration of the total system, Technical Support, system documentation and After-Sales-Service

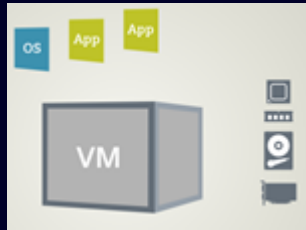


SIMATIC Virtualization as a Service

What does virtualization mean?



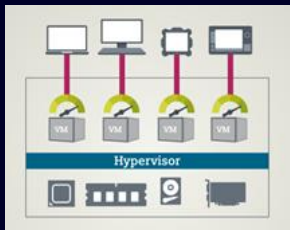
Through virtualization, the operating system and the user software of a computer are decoupled from its host.



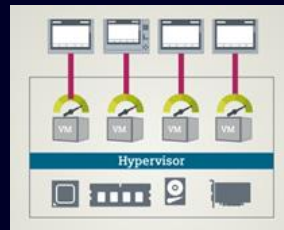
The operating system and the user software are made available in form of a virtual machine (VM).



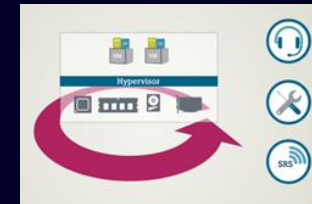
A hypervisor is installed as an additional software layer on a high performance server; it allows for the integration of several virtual machines on only one host.



The hypervisor handles the dynamic distribution of the host resources to the virtual machines.

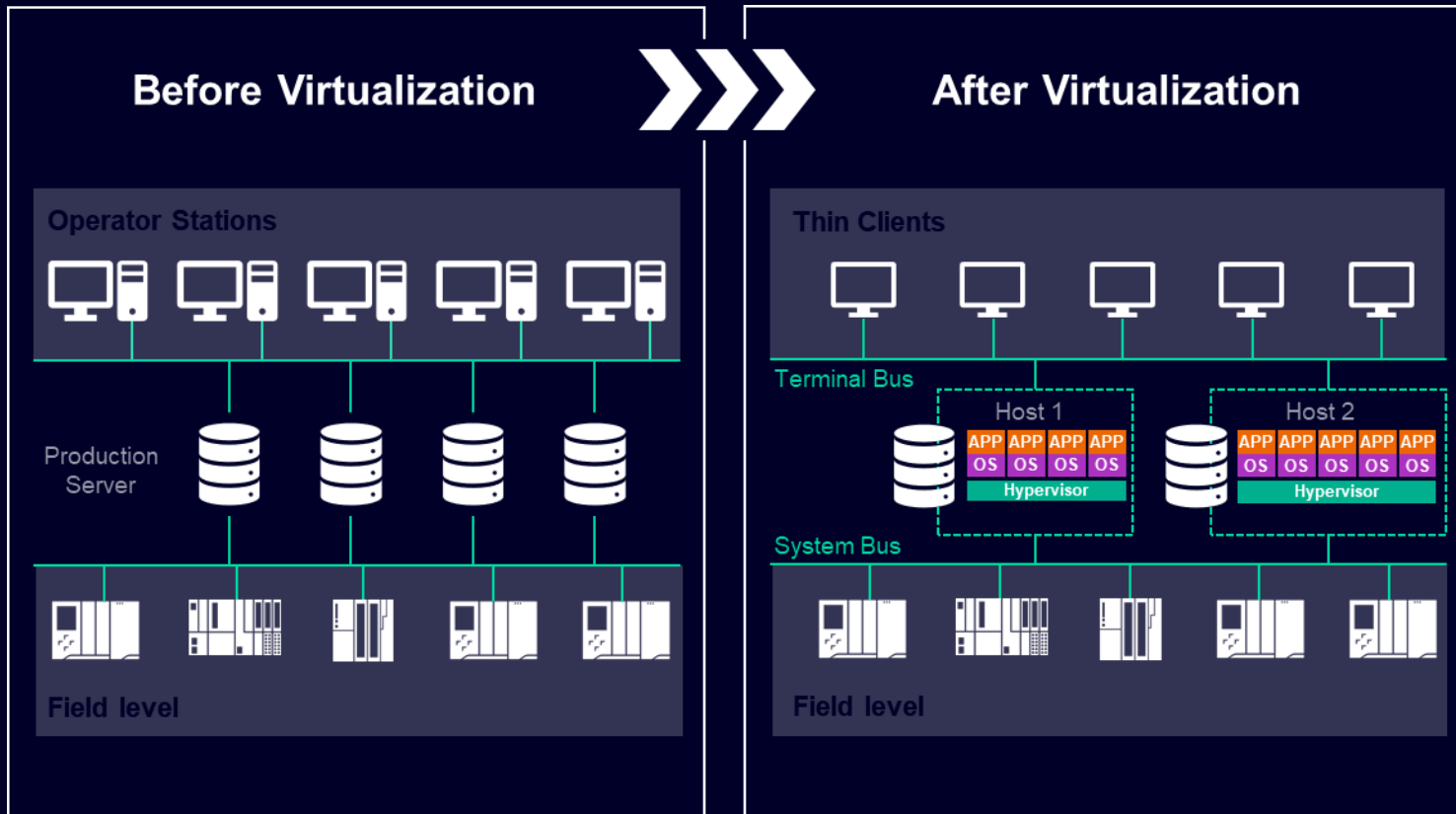


The virtual machines are accessed through energy- and cost-efficient Thin Clients.



SIMATIC Virtualization as a Service offers this technology as a ready-to-run complete system including configuration and system support.

Virtualization of production applications with SIMATIC Virtualization as a Service



Solution

SIMATIC Virtualization as a Service is a future-oriented virtualization technology including suitable software and host components as well as services throughout the entire lifecycle. Everything from a single source – with all components working together in harmony.

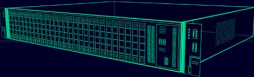
- Through virtualization, the **operating system (OS)** and the **user software (Apps)** of a computer are decoupled from its host
- The operating system and the user software are made available in form of a **virtual machine**
- A **hypervisor** is installed as an additional software layer on a high-performance server; it allows for the integration of several virtual machines on only one host
- The hypervisor handles the dynamic distribution of the host resources to the virtual machines
- The virtual machines are **accessed through** energy- and cost-efficient **Thin Clients**

SIMATIC Virtualization as a Service

Module “Configured Host”

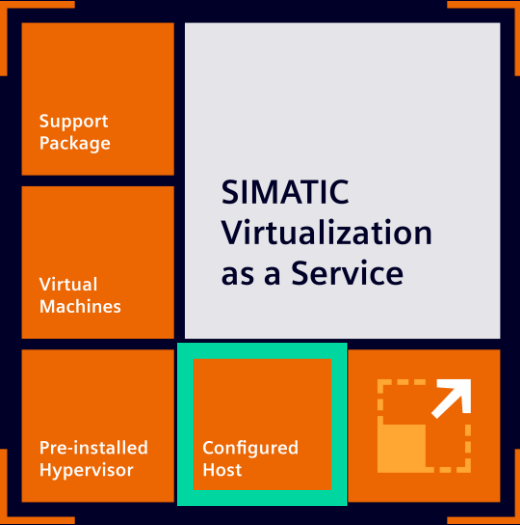
The system platform consists of the host (HPE ProLiant or DELL PowerEdge) and a management console (HP Thin Client or DELL).

Several hosts are available – they are equally performant and have linear scaling:



	S ²	M	L ³	XL
	16x1	24x1	16x2	24x2
Cores	16	24	32	48
RAM [GB]	128	192	256	384
SSD ¹ [GB]	3.200	4.800	6.400	9.600
Expandable via MLFB: RAM, SSD, NIC				

¹ net - after RAID 5 redundancy
² also as Max Performance available: faster CPU; 256GB RAM
³ also as Max Performance available: faster CPU; 512GB RAM

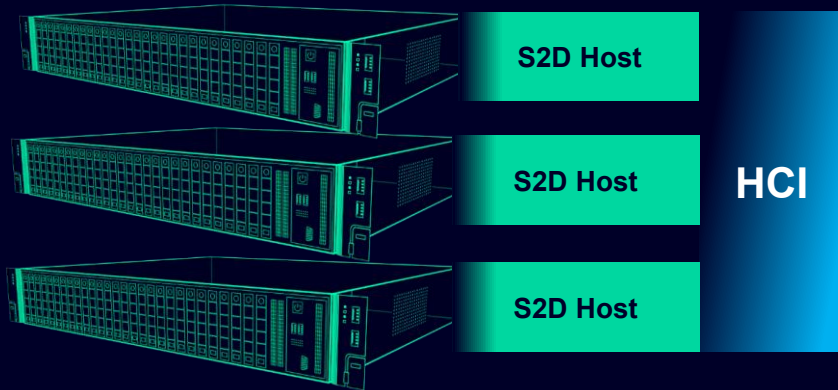


SIMATIC Virtualization as a Service Module “Configured Host” – S2D Cluster

Digital systems must be highly available in order to reduce system downtime in case of a host failure.

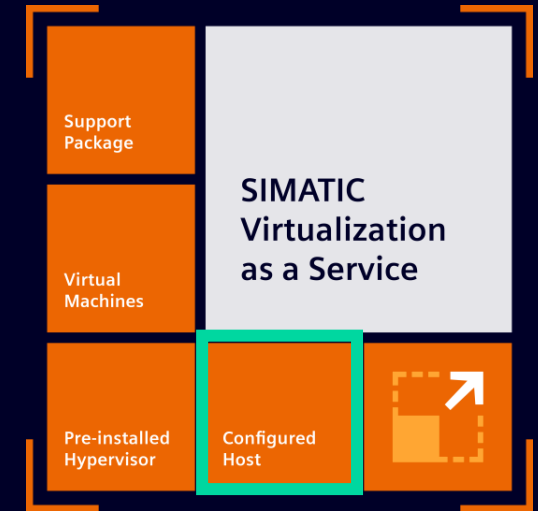
We offer a preconfigured hyper-converged storage approach, completely integrated in the SIMATIC Virtualization as a Service. The complete **HCI cluster** consists of minimum 2 standardized hosts and can be flexibly enlarged¹ with further hosts.

Currently, only the Direct Attached (DAC) cluster is available, meaning only one fire zone. The implementation of the switched variant is planned for the near future.



Pre-installation and configuration

- Configuration of the hosts
- Installation and configuration of the Hyper-V Software
- Installation and configuration of the FailoverCluster
- All necessary administrative tools are also available



¹ Currently a maximum of 3 hosts in one fire zone, Further options will follow

SIMATIC Virtualization as a Service Module “Configured Host” – S2D Cluster

Digital systems must be highly available in order to reduce system downtime in case of a host failure.

We offer a preconfigured hyper-converged system approach, completely integrated in the SIMATIC Virtualization as a Service portfolio.

The **HCI cluster¹** consists of either of two or three S2D (HCI) hosts plus a Quorum server.

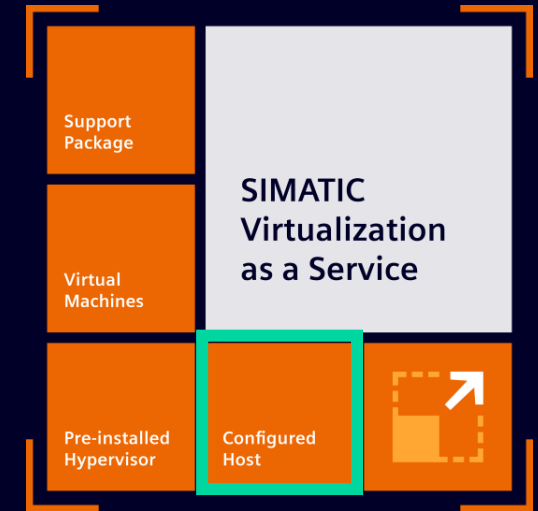
The Quorum server includes additionally a pre-installed SIDS I Back & Restore instance.

This architecture requires no separate switch-based storage network.
(highspeed **D**irect **A**ttached **C**opper cables are in use)



Pre-installation and configuration

- Configuration of the hosts
- Installation and configuration of the Hyper-V Software
- Installation and configuration of the Failover-Cluster
- All necessary administrative tools are also available



¹ Currently a maximum of 3 hosts in one fire zone, Further options will follow

SIMATIC Virtualization as a Service

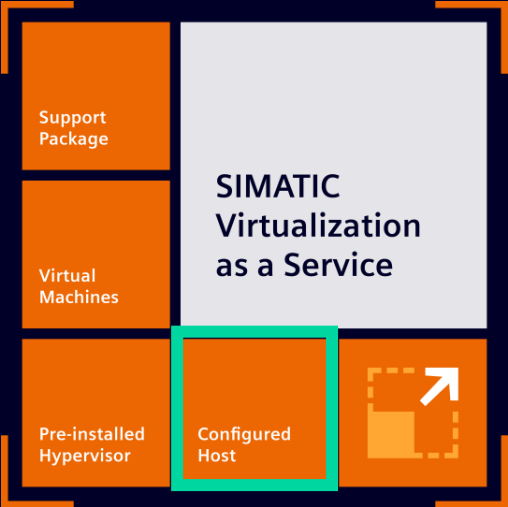
Module “Configured Host” – Overview High Available Systems

The following combinations of hosts and HA-options are possible:



	Standard				Max Performance	
	S	M	L	XL	S	L
CPU	16x1	24x1	16x2	24x2	16x1 MP	16x2 MP
RAM [GB]	128	192	256	384	256	512
Storage [TB]	3.2	4.8	6.4	9.6	3.2	6.4

	HCI	
	S	L
CPU	16x1	16x2
RAM [GB]	128	256
SSD Storage [TB]	4.0	7.5



SIMATIC Virtualization as a Service

Module “Pre-installed Hypervisor - based on Microsoft Hyper-V”

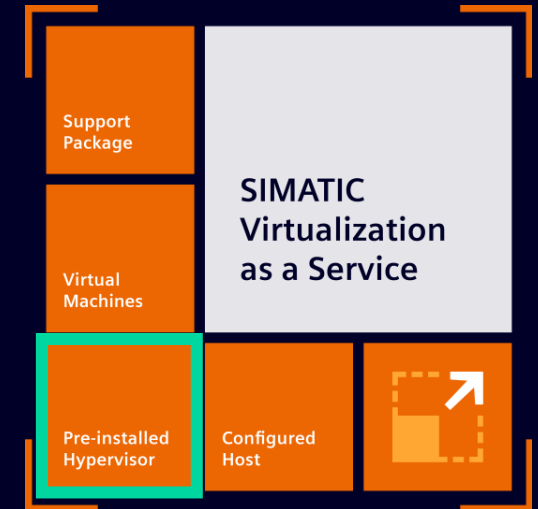
Maximize your efficiency with Microsoft **Hyper-V**. The cost-effective and powerful virtualization solution.

The benefits at a glance:

- **Cost efficiency:** Integrated into Windows Server licenses.
- **Seamless Integration:** Perfect alignment with Microsoft products.
- **Powerful Performance:** Optimal performance for Windows-based VMs.
- **Security:** Protection through TPM and Secure Boot.

The new Hypervisor “Hyper-V” is already released for common SIEMENS DCS like PCS 7, TIA Portal or WinCC

- It's system-tested, pre-installed and pre-configured
- Extended consolidated 3, 5 or exclusively also 7 years support

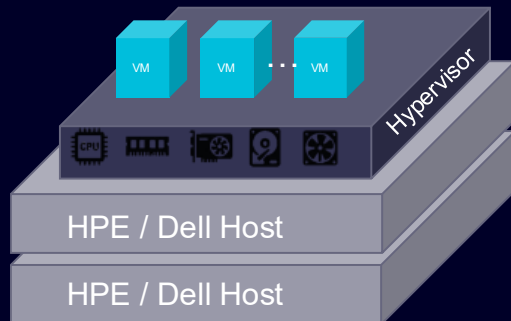


SIMATIC Virtualization as a Service

Module “Pre-installed Hypervisor - based on Hyper-V”

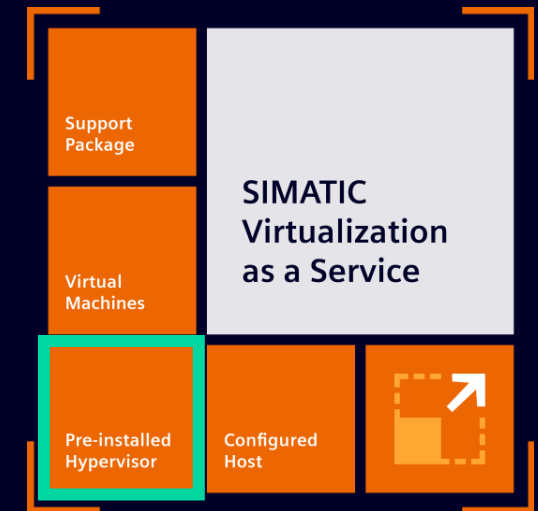
On the basis of the system platform, a virtualization layer is installed that handles the resource distribution of the physical host to the virtual machines. Hyper-V is used as the virtualization software.

- Preinstalled and preconfigured hypervisor software based on Microsoft Hyper-V
- Hyper-V Manager and Windows Admin Center as centralized management of your virtual infrastructure. Available for all systems on the mandatory Management Console



Pre-installation and configuration

- Installation and configuration of the hypervisor Software based on Microsoft Hyper V
- Activated TPM Module and Secure Boot in all hosts
- Complete virtual network configuration
- Fully licensed software
- Pre-installed administration and maintenance software on the Management Console

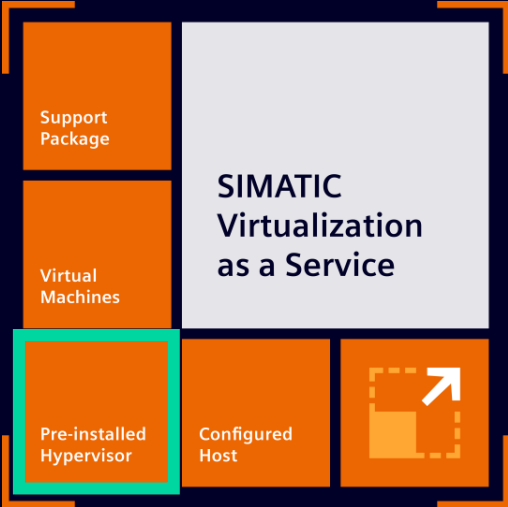


SIMATIC Virtualization as a Service

Module “Pre-installed Hypervisor - Comparison ESXi and Hyper-V”

The new pre-installed hypervisor Microsoft „Hyper-V“ compared to VMware by Broadcom:

	VMware ESXi	Microsoft Hyper-V
Costs	Separate licensing - can be more expensive initially but may offer more advanced features	Integrated in Windows Server
Integration	Provides extensive support for a variety of operating systems – incl. macOS, making it more flexible	Seamless integration with other Microsoft products like Windows Server, System Center, and Azure
Management Tools	Comprehensive management tools like vSphere web client and vCenter Server	Powerful management tools like Hyper-V Manager and Windows Admin Center
Performance	Known for its performance optimization and resource management capabilities	Offers excellent performance, especially when paired with Windows-based VMs
Security	Good security and monitoring features	Built-in security features like Shielded VMs that provide additional protection
Support Agreement	Fixed 5 years duration, VMware maintenance support limited to 05/2029	Selectable: 3, 5 or 7 years
Dependence	Virtual machines and SIEMENS application are bound to the virtual hardware version of VMware	No dedicated dependency between virtual machine and SIEMENS application



SIMATIC Virtualization as a Service Module “Virtual Machines”

On the system platform, a virtual machine is delivered ready for operation. On every virtual machine, a Microsoft Windows Server 2019 or 2022 64-bit (with activated license) is preinstalled.

We have broad expertise in hosting the following applications:

- SIMATIC PCS neo
- SIMATIC PCS 7
- SIMATIC Step 7
- SIMATIC WinCC
- TIA Portal
- BRAUMAT & Sistar
- SIMIT
- COMOS
- DESIGO CC

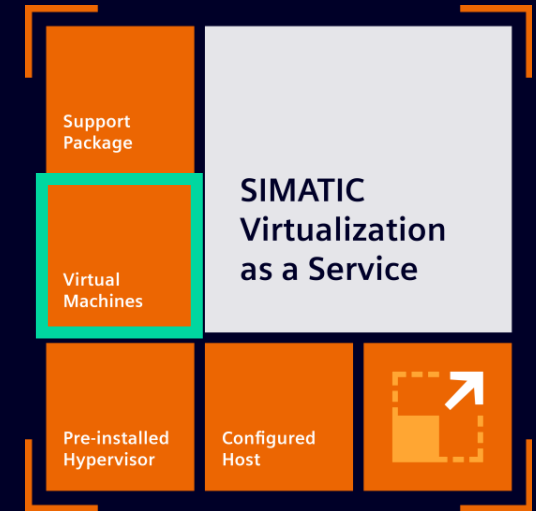
We are happy to advise you on the integration of your application.



SIMATIC PCS 7



TIA Portal



SIMATIC Virtualization as a Service Module “Virtual Machines”

Standardized SIMATIC Templates

With SIMATIC Virtualization as a Service we continuously work on the availability of standardized, preconfigured, pre-installed and system tested virtual machine templates.

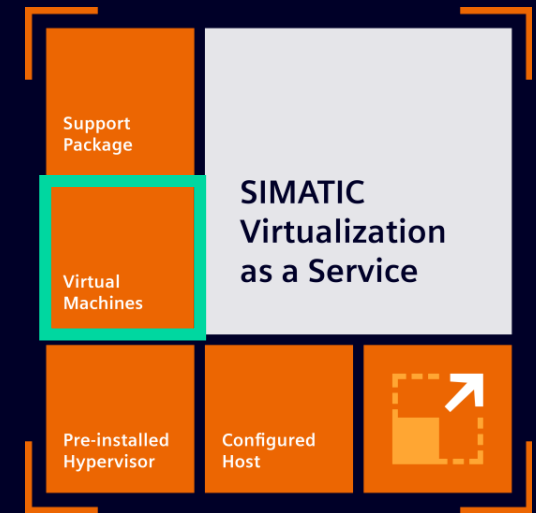
Currently VMs with the following application Software are available:

For VMware vSphere V8²

- PCS 7 V9.1 SP2
- PCS 7 V10
- PCS 7 V10.0 SP1
- SIMIT 11.2
- WinCC V8
- TIA Portal V19
- BRAUMAT / SISTAR V8.1
- IGEL UMS for IGEL OS 12
- Windows Server 2019, 2022 and 2025

For Microsoft Hyper-V

- PCS 7 V9.1 SP2
- PCS 7 V10¹
- PCS 7 V10 SP1¹
- Windows Server 2019, 2022 and 2025



With the new VMs, we are not only expanding the portfolio but also enabling our customers to bring their application software up to date while complying our established high-quality standards.



SIMATIC Virtualization as a Service - provision of latest software to address all customer needs regarding software updates

¹ Route Control for Hyper-V will be released later

² VMware Templates are only available for brownfield projects

SIMATIC Virtualization as a Service

Module “Support Package“

Installation & Configuration
Support Elements
User Manual
After Sales Service
Additional Services

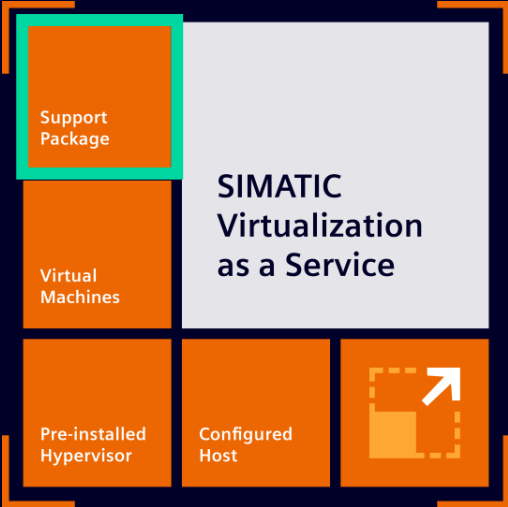
Pre-installation and configuration of the servers is part of the delivery scope

- 3-, 5- and 7-years for Hyper-V
- Technical Support for all used components included: Host, operating systems, Hypervisor, SIMATIC products
- One contact for all inquiries
- Individual support by experts (phone/eMail), processing duration of each case up to 2h. No limitation of cases
- Processing of inquiries regarding functions and system handling
- Coordination of the support activities regarding components from third parties
- DMR (Defective Media Retention) for broken storages – Customer IP will remain on site

In addition to the documentation of the HW/SW components, the system documentation includes a detailed technical manual, instructions, FAQ's, upgrade procedures and application examples

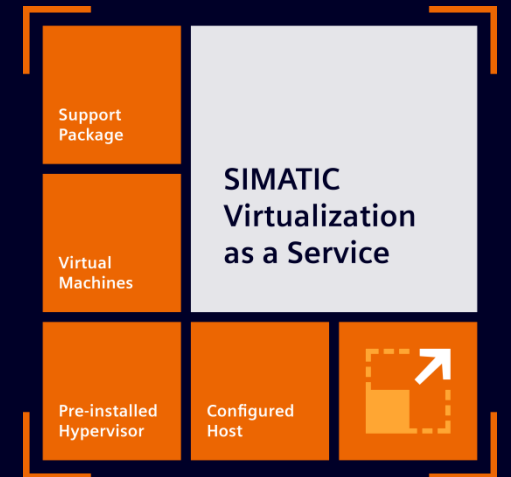
Warranty (up to 84 months after purchase) and spare parts availability until EOL + remaining service contract period

- Clients with linux based IGEL Operating System for Vmware hypervisor
- cRSP Ready Management Console
- Supplementary Lifecycle Services: Remote Services
- Supplementary Lifecycle Services: Industrial Cybersecurity Services



SIMATIC Virtualization as a Service 4.2

What's new – in a nutshell



SIEMENS

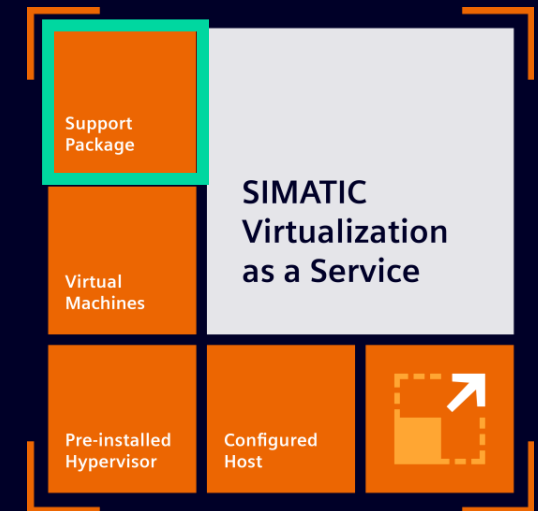
SIMATIC Virtualization as a Service Module “Configured Host”

“Enhance support agreements”

We’re excited to announce that we are now offering up to 5 years of support for our IGEL OS Thin Client products. This extended support ensures long-term reliability, peace of mind, and even greater value for your investment.

This step is part of our broader initiative to harmonize our service concept, ensuring consistency and reliability across all offerings. By extending the support duration, we’re not only addressing a key customer need — long-term service availability — but also enhancing the overall service experience.

Our goal is simple: to provide you with greater peace of mind, improved lifecycle support, and a more seamless journey from purchase to operation.



SIMATIC Virtualization as a Service Module “Pre-installed Hypervisor”

Completing our Hyper-V portfolio - with our new Hyper-V HCI cluster

Microsoft Hyper-V HCI¹ as a project-specific configuration – the highly available counterpart to the well-known and widely established VMware vSAN solution

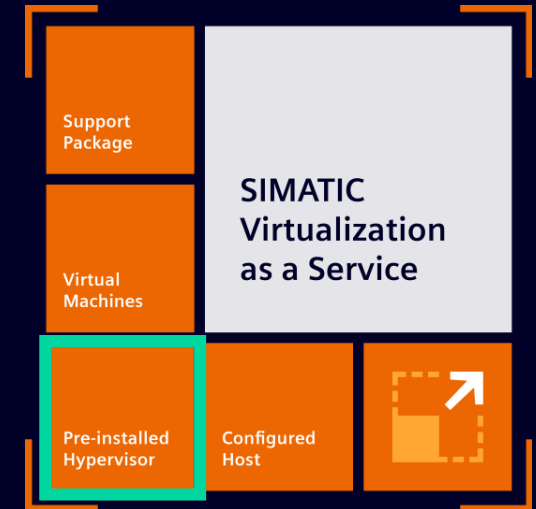
The solution offered by Microsoft here is called “Storage Spaces Direct” (S2D) and has been project specifically commercialized by us with the new release SIVaaS 4.2.

For offers please contact sivaas.industry@siemens.com

This means that customers with the highest availability requirements can now also find it in the SIVaaS Hyper-V portfolio.



Hyper-V High availability Cluster



¹ HCI = Hyper Converged Infrastructure

SIMATIC Virtualization as a Service Module “Virtual Machines”

In order to create added value for the customer the existing portfolio has been expanded with the new **SIVaaS version 4.2**.

The extension includes a current update for:

SIMATIC PCS 7 V10 SP1
based on Hyper-V & based on VMware¹

and

Windows 2025 Only
based on Hyper-V & based on VMware¹

Note:

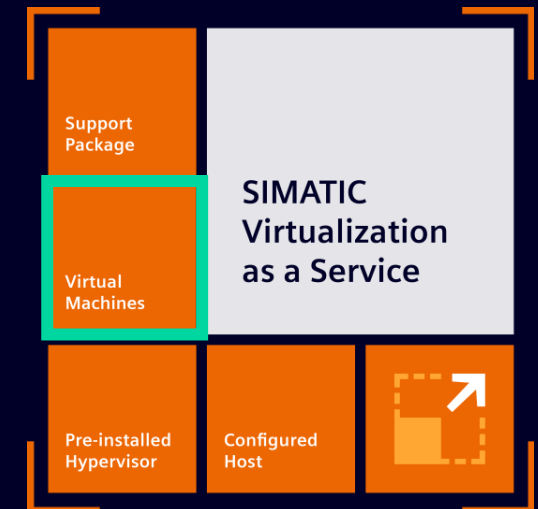
All VMware templates will be released and immediately discontinued. This is necessary to avail VMware templates for brownfield project and/or subsequent deliveries. Discontinuation applies also for all legacy templates.



SIMATIC PCS 7 v9



SIMATIC PCS 7 v10



¹ VMware Templates only for Brownfield with limited availability

SIMATIC Virtualization as a Service Module “Virtual Machines”

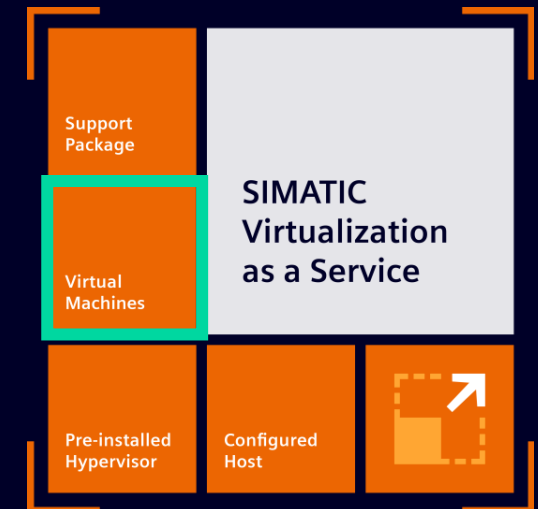
Statement about current VMware situation

Due to strategic decisions, our preferred hypervisor has been switched to Microsoft Hyper-V.

This led to the complete discontinuation of licensed VMware systems and a limitation in the availability of VMware templates.

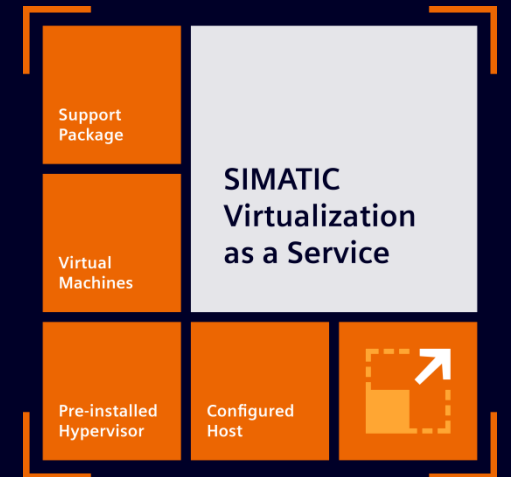
We have been working intensively and at high pressure on the realization of a new hypervisor line and can now offer **Hyper-V for both standard and HA systems.**

Hyper-V therefore offers no limitations to VMware in terms of performance or scope and is thus an adequate successor.



SIMATIC Virtualization as a Service

as part of the
Managed IT/OT Infrastructure



SIEMENS

Why not profiting from the industrial digitalization age and get Siemens on board for your IT/OT infrastructure?

Managed IT/OT Infrastructure

- includes a ready-to-run high-available IT infrastructure for OT environments.
- maximized performance and compliance meeting the latest cybersecurity requirements.
- ensures operational continuity through remote management and monitoring by IT/OT experts.

➤ bridges the gap between IT and OT.



The perfect symbiosis of hardware, software and services

Secure data exchange between IT and OT based on IEC 62443 with **industrial DMZ** infrastructure

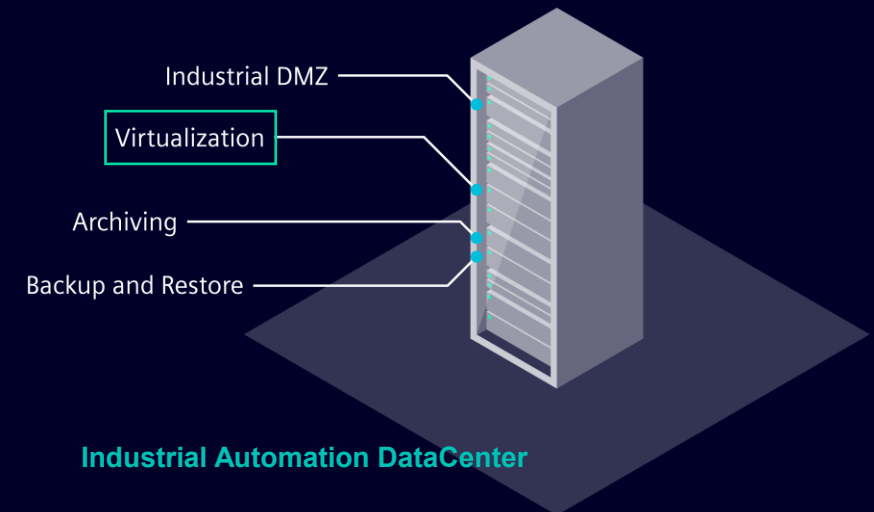
Future-proof modernization of control systems with a pre-configured **virtualization** platform

Pre-configured IT infrastructure for optimized data handling:

- **Archiving**
- **Backup and Restore**



Remote monitoring and management of your IT/OT infrastructure by IT/OT experts through the entire life cycle



Why should you choose SIMATIC Virtualization as a Service?



System-tested

and pre-configured virtualization platform for your production applications



Ready-to-use

virtualization platform for maximized uptime and simplified maintenance



Full-Service partner

100% lifecycle services from a single source

Siemens as reliable partner for IT infrastructure in OT environments

We are the
automation
experts



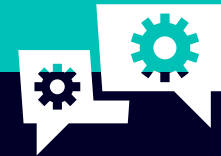
We drive
digitalization



We understand
industrial
security



We have
specific industry
know-how



We offer state-
of-the-art
technology and
end-to-end
services from a
single source



“We make sure that you can focus on your core business.”

MP Hygiène, Davézieux, France

Full IT/OT Infrastructure with Industrial Automation DataCenter

MP Hygiène

MP Hygiène is France's leading manufacturer of pure cotton wiping paper with the Origine France Garantie® label, and also manufactures non-woven wipes, soaps and hand hygiene solutions. 56,700 m² of buildings on 4 sites and 12 production lines.

Customer objectives

As part of their industrial process, the customer wanted a virtualized infrastructure and strong cybersecurity packaged by Siemens

Solution and Service

Siemens service experts provide Industrial Automation DataCenter solution with PCS 7 migration:

- Redundant SIMATIC Virtualization as a Service (SIVaaS) and SIMATIC DCS / SCADA Infrastructure (SIDS), (back up and restore) solutions in the same infrastructure.
- Scalance based virtual network architecture including Demilitarized Zone (DMZ).
- Turnkey SIMATIC PCS 7 migration.
- Technical support from a Siemens paper industry expert throughout the project.

Customer benefits

- A pre-configured redundant Siemens virtualized infrastructure ready to host the migration of its PCS 7 project
- A powerful backup and recovery solution and a security-oriented network to prevent cyber attacks
- A service contract included with the infrastructure
- Virtualized Resources, Less Hardware, Energy Savings, Obsolescence and Cybersecurity Management

Siemens References ID: [37510](#)



Jack Daniels, USA

Save time and money with SIMATIC Virtualization as a Service

Jack Daniels

The oldest registered distiller in the U.S., [Jack Daniel's](#) Distillery, was running at capacity and landlocked at one distillery in Lynchburg/Tenn.

Customer objectives

- Expansion to meet current and future demand
- To keep Jack Daniel's existing operating philosophies in place at the new plant
- To implement new operator interface technologies, as well as new instrumentation, wireless networking and have the ability to connect the two plants

Solution and Service

SIMATIC Virtualization as a Service (SIVaaS)

- Virtualization System with two identical host machines. Each machine has an operator station (OS) server, Batch server, Route Control server and an engineering station providing redundant pairs for all critical functions
- SIMATIC PCS 7, BATCH and Route Control: 10 panels , more than 2,000 I/O points, four S7-410 controllers, 22 remote I/O racks and more than 200 I/O cards
- The operator interface uses a strategic placement of touch-panels and iPad tablets

Customer benefits

- Reduction of operational and development expenditures
- Control design advantages, operator and maintenance improvements and system flexibility
- Inexpensive HW replacement compared to standard machines
- Using of SIVaaS means that virtual machines can be accessed through VMware vSphere hypervisor software on the iPads for maintenance, updating and troubleshooting

Siemens References ID: [Refp6242](#)





You want to find out **more?**

[SIMATIC
Virtualization as a
Service](#)

[Siemens Contact
Database](#)

Disclaimer

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Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit <https://www.siemens.com/industrialsecurity>

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under <https://www.siemens.com/industrialsecurity>