



SIEMENS

Service description

Industrial Automation DataCenter (IADC) V1.2 & V1.2 SP1

<https://support.industry.siemens.com/cs/ww/en/view/109824075>



1 Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



DANGER

indicates that death or severe personal injury will result if proper precautions are not taken.



WARNING

indicates that death or severe personal injury may result if proper precautions are not taken.



CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:



WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Security information

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.

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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/cert>.

Language

This is an English translation for convenience only. In case of inconsistencies with the German version of this document, the German version shall prevail.

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2 Description of service

2.1 SIMATIC Virtualization as a Service (SIVaaS)

„SIMATIC Virtualization as a Service“ (SIVaaS) is a preconfigured, ready-to-use virtualization system for the realization of efficient automation solutions for SIMATIC plants.

The virtualization system

The virtualization system consists of software and hardware components that are adjusted to each other in the best possible way to achieve high performance.

These include:

Hardware

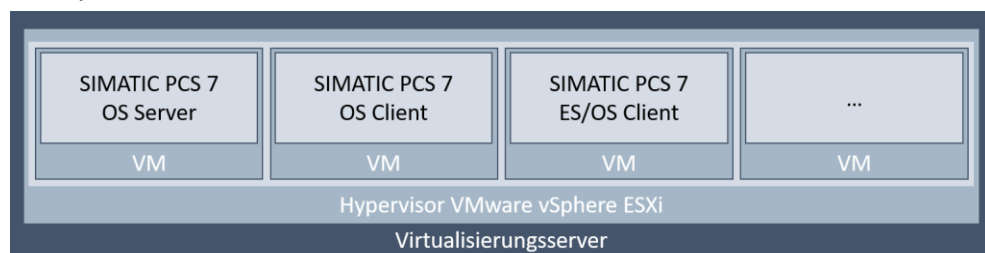
- Virtualization server and
- Thin Clients

Software

- VMware vSphere
- ESXi (Hypervisor)
 - vCenter Server
 - vSphere Web Client or VMware Host Client
 - VM *with* pre-installed Application Software (e.g., SIMATIC-Software)¹
 - VM *without* pre-installed Application Software ²

The virtualization system can be easily and efficiently expanded using preconfigured templates, making it scalable to different system sizes. A highly available system can be realized by connecting another virtualization server.

Example: SIMATIC PCS 7



SIVaaS is available in the versions described below.

¹ incl. Microsoft Windows Operating System

² incl. Microsoft Windows Operating System

2.1.1 SIVaaS – Standard

SIVaaS Standard was designed as an entry point to virtualization solutions. It consists of one or more virtualization hosts, which provide the runtime environment for the virtual machines. Here, the system availability is already increased by the independence of the virtual machines to a special hardware.

2.1.1.1 Service

Hardware and Software components

The scope of delivery may vary in the system components:

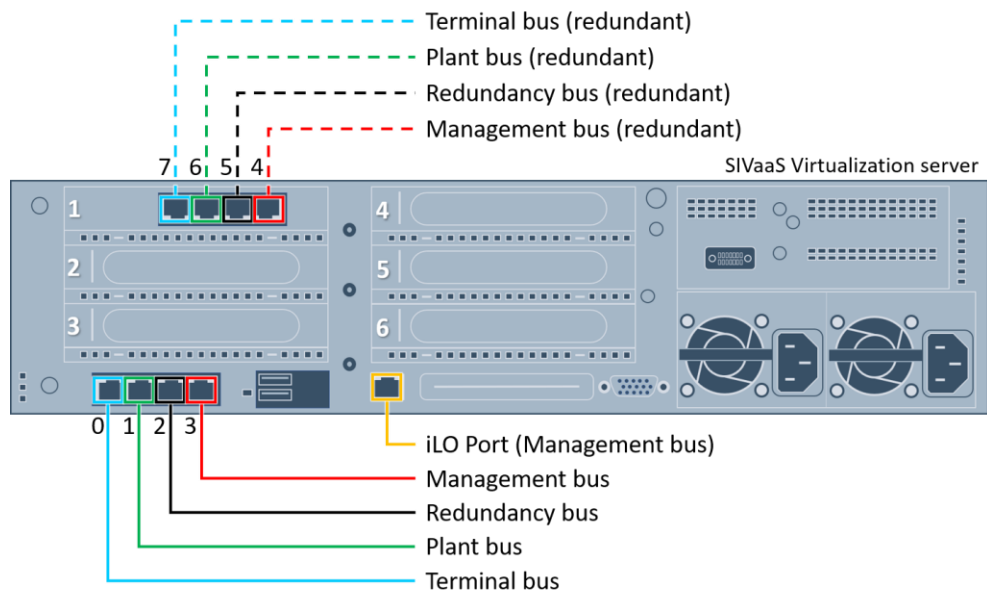
- Virtualization server (selected host system)
- Number of thin clients ordered
- Number and type of ordered VM
- Included licenses and features

Hardware

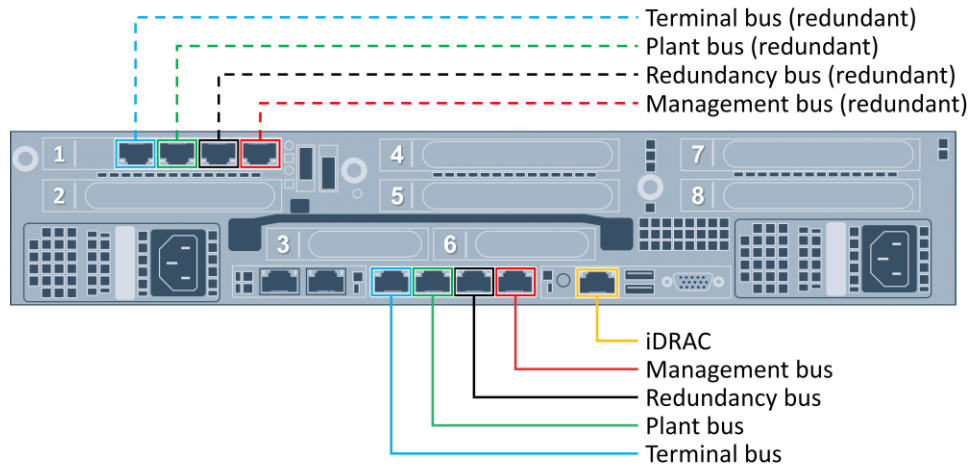
The following variants of the hardware components are available and are assembled according to customer requirements. All servers are HPE ProLiant servers or Dell PowerEdge servers, 19" with 2 height units.

Below is a schematic view of the back of the server:

- SIVaaS Standard virtualization server (HPE ProLiant)



- SIVaaS Standard virtualization server (Dell PowerEdge)



The hardware details can be taken from the following chapter.

2.1.1.1.1 ECO-Host

The ECO host is designed for lower performance requirements. It is equipped with a weaker CPU and is used for the virtualization of secondary systems or non-system-critical components. The SIVaaS ECO-Host is equipped **without** a Microsoft Windows Datacenter license and therefore requires additive Microsoft Windows Server Standard licenses per VM.

NOTICE

This host is not to be used in production systems with availability requirements (e.g., PCS 7), but as Witness-Host, in test or training systems or similar.

NOTICE

The Microsoft Windows Server Standard licenses required for the SIVaaS ECO hosts are available under MLFB 9LA1110-6SV00-1WS0 (per VM).

2 Description of service

Table 2-1

| Name | Host System / Configuration | Comment |
|--|---|--|
| <p>HPE ProLiant DL380 Gen10 Server</p> | <p>10x1 HPE Host System „ECO“</p> <ul style="list-style-type: none"> • Performant 10 Core Intel Server CPU • 64GB Memory • 480GB SSD System¹ • 1.8TB HDD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 8 add. memory extension slots ○ 2 add. storage extension slots ○ 2 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≙2HU) | <p>Article number: w/o Windows license 9LA1110-6SV00-1HA3</p> |
| <p>DELL PowerEdge R750</p> | <p>12x1 DELL Host System „ECO“</p> <ul style="list-style-type: none"> • Performant 12 Core Intel Server CPU • 64GB Memory • 480GB SSD System¹ • 1.8TB HDD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 12 add. memory extension slots ○ 10 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: w/o Windows license 9LA1110-6SV00-2HA3</p> |

¹ approx. net capacity after RAID configuration

2 Description of service

2.1.1.1.2 The SIVaaS standard Host WITHOUT Microsoft Datacenter licensing

For SIVaaS 1-CPU systems, experience has shown that due to the lower number of VMs per host, flat-rate datacenter licensing is not cost-effective. Therefore, a SIVaaS 1-CPU host does not include a Windows Datacenter license. One Microsoft Windows Server Standard license is required per VM on a 1-CPU system.

| | |
|---------------|---|
| NOTICE | <p>The Microsoft licenses required for the VM with SIVaaS 16x1 Standard Hosts are available under article number 9LA1110-6SV00-1WS0 (per VM).</p> <p>The Microsoft licenses required for the VM with SIVaaS 24x1 Standard Hosts are available under article number 9LA1110-6SV00-1WS1 (per VM).</p> |
|---------------|---|

Table 2-2

| Name | Host System / Configuration | Comment |
|---------------------------------|---|--|
| HPE ProLiant DL380 Gen10 Server | <p>16x1 HPE Host System "S"</p> <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SSD System¹ • 3.2TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 4 add. memory extension slots ○ 3 add. storage extension slots ○ 2 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HC8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|--|
| | <p>24x1 HPE Host System „M“</p> <ul style="list-style-type: none"> • High performant 24 Core Intel Server CPU • 192GB Memory • 480GB SSD System¹ • 4.8TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ no add. memory extension slots ○ 10 add. storage extension slots ○ 2 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HE8</p> |
| | <p>16x1 HPE Host „Max Performance“:</p> <ul style="list-style-type: none"> • Highest performant 16 Core Intel Server CPU • 256GB Memory • 480GB SSD System¹ • 3.2TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 4 add. memory extension slots ○ 3 add. storage extension slots ○ 2 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HD1</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|---------------------|--|--|
| DELL PowerEdge R750 | <p>16x1 DELL Host System "S"</p> <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SSD System¹ • 3.2TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 12 add. memory extension slots ○ 11 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: 9LA1110-6SV00-2HC8</p> |
| | <p>24x1 DELL Host System „M“</p> <ul style="list-style-type: none"> • High performant 24 Core Intel Server CPU • 192GB Memory • 480GB SSD System¹ • 4.8TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 10 add. memory extension slots ○ 10 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: 9LA1110-6SV00-2HE8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|--|
| | <p>16x1 DELL Host „Max Performance“:</p> <ul style="list-style-type: none"> • Highest performant 16 Core Intel Server CPU • 256GB Memory • 480GB SSD System¹ • 3.2TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 8 add. memory extension slots ○ 11 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: 9LA1110-6SV00-2HD1</p> |

¹approx. net capacity after RAID configuration

2 Description of service

2.1.1.1.3 The SIVaaS standard host WITH Microsoft Datacenter licensing

In difference to the SIVaaS 1-CPU systems, the average number of VM is so high that a flat-rate Datacenter licensing has proven to be the best-fit. Therefore, the SIVaaS 2-CPU systems include the Microsoft Windows Datacenter license.

NOTICE The SIVaaS 16x2 and 24x2 do not require additive Windows licenses to the VMs.

Table 2-3

| Name | Host System / Configuration | Comment |
|---------------------------------|---|--|
| HPE ProLiant DL380 Gen10 Server | <p>16x2 HPE Host System "L":</p> <ul style="list-style-type: none"> • 2 High performant 16 Core Intel Server CPUs • 256GB Memory • 480GB SSD System¹ • 6.4TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 8 add. memory extension slots ○ 9 add. storage extension slots ○ 5 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HF8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|--|
| | <p>24x2 HPE Host System "XL":</p> <ul style="list-style-type: none"> • 2 High performant 24 Core Intel Server CPUs • 384GB Memory • 480GB SSD System¹ • 9.6TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ no add. memory extension slots ○ 7 add. storage extension slots ○ 5 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HG8</p> |
| | <p>16x2 HPE Host „Max Performance“:</p> <ul style="list-style-type: none"> • 2 Highest performant 16 Core Intel Server-CPU's • 512GB Memory • 480GB SSD System¹ • 6.4TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 8 add. memory extension slots ○ 9 add. storage extension slots ○ 5 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SV00-1HD2</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|---------------------|--|--|
| DELL PowerEdge R750 | <p>16x2 DELL Host System "L":</p> <ul style="list-style-type: none"> • 2 High performant 16 Core Intel Server-CPU's • 256GB Memory • 480GB SSD System¹ • 6.4TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 24 add. memory extension slots ○ 9 add. storage extension slots ○ 1 add. PCI / PCI's extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: 9LA1110-6SV00-2HF8</p> |
| | <p>24x2 DELL Host System "XL":</p> <ul style="list-style-type: none"> • 2 High performant 24 Core Intel Server-CPU's • 384GB Memory • 480GB SSD System¹ • 9.6TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 20 add. memory extension slots ○ 7 add. storage extension slots ○ 1 add. PCI / PCI's extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≙2HU) | <p>Article number: 9LA1110-6SV00-2HG8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|---|--|
| | <p>16x2 DELL Host „Max Performance“:</p> <ul style="list-style-type: none"> • 2 Highest performant 16 Core Intel Server-CPU's • 512GB Memory • 480GB SSD System¹ • 6.4TB SSD Datastore¹ • 10x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 16 add. memory extension slots ○ 9 add. storage extension slots ○ 1 add. PCI / PCI's extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≅2HU) | <p>Article number: 9LA1110-6SV00-2HD2</p> |

¹ approx. net capacity after RAID configuration

Software

The following VMware Software is included with the host server:

Table 2-4

| Name | Host System / Configuration | Comment |
|-----------------|---|--|
| VMware Software | VMware vSphere 7 Standard Hypervisor (ESXi) Optional product scope: VMware vCenter Version 7 | Article number: Not available for single order |

2.1.1.2 Delimitation

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies, or 1260W/h for the 1100W DELL server power supplies.
- The required VMware licenses are determined and included according to the customer configuration. The VMware vSphere licenses are part of the corresponding hosts and therefore cannot be ordered separately via article number.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.
- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-1, Table 2-2 resp. Table 2-3 in individual cases. It must be ensured that the manufacturer's recommendations for hardware design are adhered to.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.

2.1.2 SIVaaS – SAN

In addition to the properties specified in section 2.1.1 SIVaaS - Standard, the IADC can also be set up with increased availability. For this purpose, the datastore located locally in the virtualization servers, which stores the VM, is replaced by an external datastore (SAN - Storage Area Network). This means that even if a virtualization server fails, the VM can be restored as quickly as possible on another virtualization server.

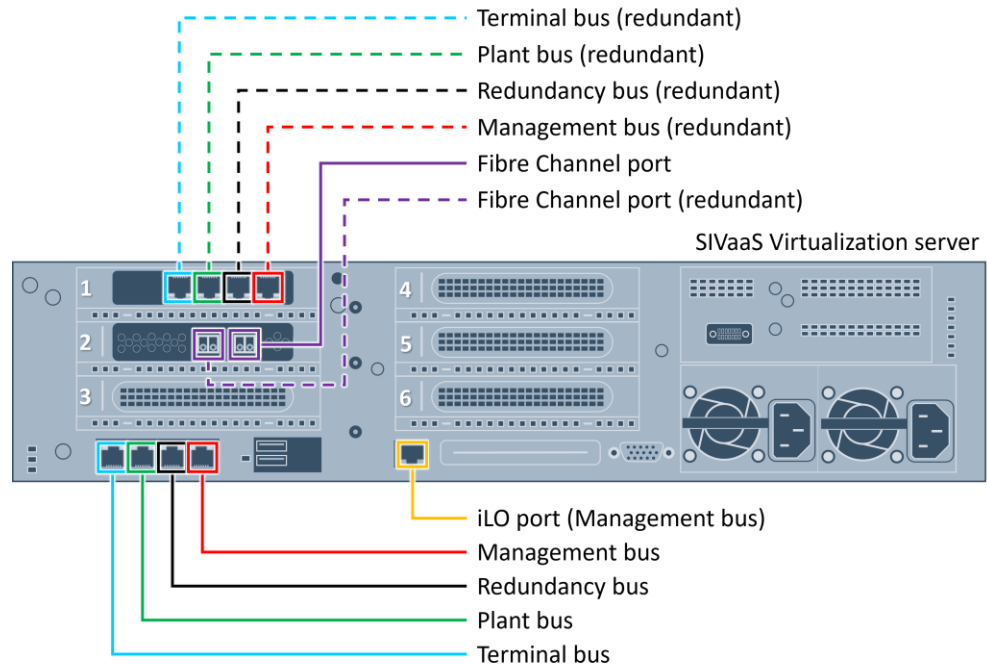
2.1.2.1 Service

Hardware

The following variants of the hardware components are available and are assembled according to customer requirements. All servers are HPE ProLiant servers, 19" with 2 height units.

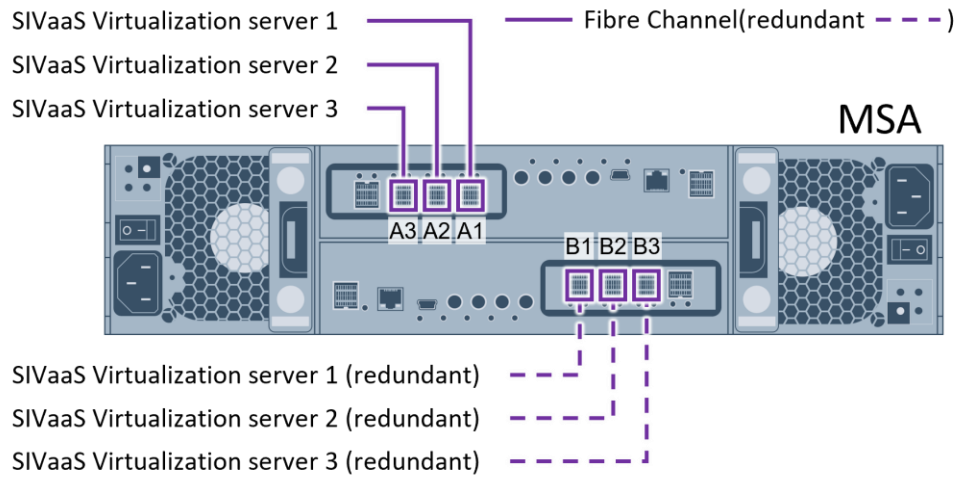
Below is a schematic view of the back of the server:

- SIVaaS SAN virtualization server (HPE ProLiant)



2 Description of service

- SIVaaS SAN storage (HPE MSA2060)



The hardware details can be taken from the following chapter.

2.1.2.1.1 The SIVaaS SAN storage

Table 2-5

| Name | Host System / Configuration | Comment |
|----------------------|--|--|
| HPE MSA 2060 Storage | MSA 2060 Storage Server <ul style="list-style-type: none"> 1.9TB SAS SSD Cache¹ 2x4 Fiber Channel connections Redundant power supply Dimensions (WxDxH in cm): 44,5 x 50,8 x 8,90 (≅2HU) | Article number: 9LA1110-6SV00-1HT3 |

¹ approx. net capacity after RAID configuration

2 Description of service

2.1.2.1.2 The SIVaaS SAN Host

Similar to the SIVaaS standard 1-CPU systems, the hosts of the SIVaaS SAN systems are also delivered without a Microsoft Datacenter license.

| | |
|---------------|---|
| NOTICE | <p>The Microsoft Windows Server Standard licenses for the VM required for SIVaaS 16x1 SAN hosts are available under article number 9LA1110-6SV00-1WS0 (per VM).</p> <p>The Microsoft Windows Server Standard licenses for the VM required for SIVaaS 24x1 SAN hosts are available under article number 9LA1110-6SV00-1WS1 (per VM).</p> |
|---------------|---|

Table 2-6

| Name | Host System / Configuration | Comment |
|---------------------------------|--|--|
| HPE ProLiant DL380 Gen10 Server | <p>16x1 SAN HPE Host System "S"</p> <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SSD System¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 4 add. memory extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) <p>Datastore in the MSA with</p> <ul style="list-style-type: none"> • 3.6TB SAS HDD¹ | <p>Article number: 9LA1110-6SV00-1HT4</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|---|--|
| | <p>24x1 SAN HPE Host System "M"</p> <ul style="list-style-type: none"> • High performant 24 Core Intel Server CPU • 192GB MEMORY • 480GB SSD System¹ • 8x 1 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ no add. memory extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (±2HU) <p>Datastore in the MSA with</p> <ul style="list-style-type: none"> • 4.8TB SAS HDD¹ | <p>Article number: 9LA1110-6SV00-1HT5</p> |

¹ approx. net capacity after RAID configuration

Software

The following VMware Software is included with the host server:

Table 2-7

| Name | Host System / Configuration | Comment |
|-----------------|--|---|
| VMware Software | <ul style="list-style-type: none"> • VMware vSphere 7 Standard Hypervisor (ESXi) • VMware vCenter Server 7 | <p>Article number: Not available for single order</p> <p>Article number: vCenter Standard 9LA1110-6SV05-0VS1</p> <p>vCenter Foundation 9LA1110-6SV05-0VF1</p> |

2.1.2.2 Delimitation

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W

2 Description of service

power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies, or 1260W/h for the 1100W DELL server power supplies.

- The provision of the network configuration information by the customer is a prerequisite for installation.
- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-6 in individual cases. It must be ensured that the manufacturer's recommendations for hardware design are adhered to.
- Project-specific configuration on the part of the management network is necessary due to the system and must be announced by customers in advance (see network configuration list SIVaaS). Further project-specific configuration services (e.g. IP addresses, host names, passwords) are not included and must be ordered separately.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.

2.1.3 SIVaaS – vSAN

The vSAN function in IADC extends the SAN functionality described in section 2.1.2 SIVaaS - SAN by a so-called hyperconverged vSAN. Here, the hard disks installed locally in the virtualization servers are connected to form a cross-host "virtual RAID" storage. This ensures that if a virtualization server fails, the VM can be brought online and almost "bumpless" to run on another virtualization server. This can increase the availability of the system again compared to "SIVaaS SAN" or "SIVaaS Standard".

2.1.3.1 Service

The following variants of the hardware components are available and are assembled according to customer requirements.

2.1.3.1.1 The SIVaaS vSAN Host WITHOUT Microsoft Datacenter licensing

Just like the SIVaaS Standard 1-CPU systems, the SIVaaS vSAN 1-CPU systems are shipped without a Microsoft Datacenter license and require additive Microsoft licenses for the VM.

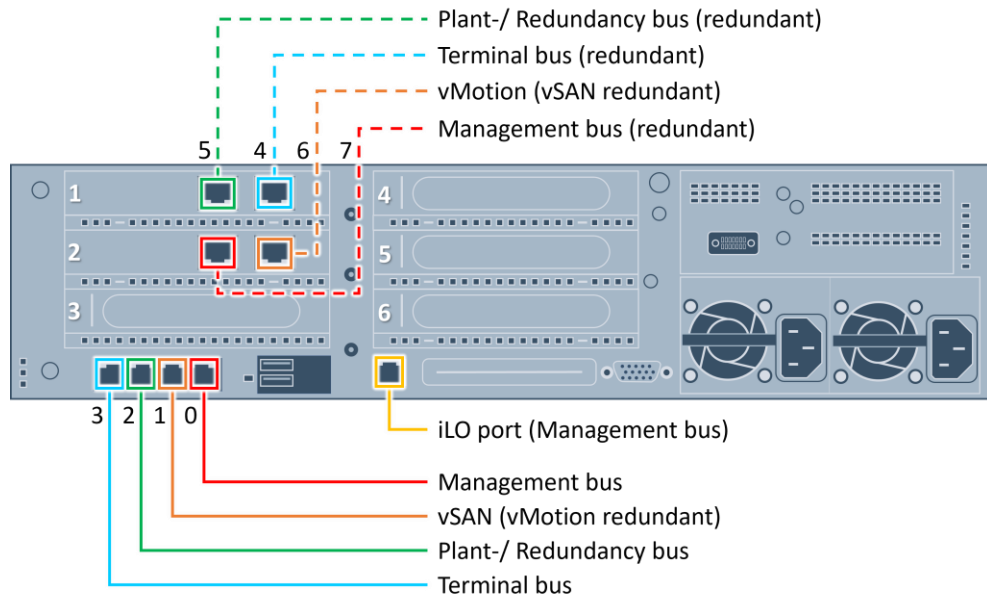
| | |
|---------------|--|
| NOTICE | <p>The Microsoft Windows Server Standard licenses required for the VM on SIVaaS 16x1 vSAN hosts are available under article number 9LA1110-6SV00-1WS0 (per VM).</p> <p>The Microsoft Windows Server Standard licenses for the VM required for SIVaaS 24x1 vSAN hosts are available under article number 9LA1110-6SV00-1WS1 (per VM).</p> |
|---------------|--|

Hardware

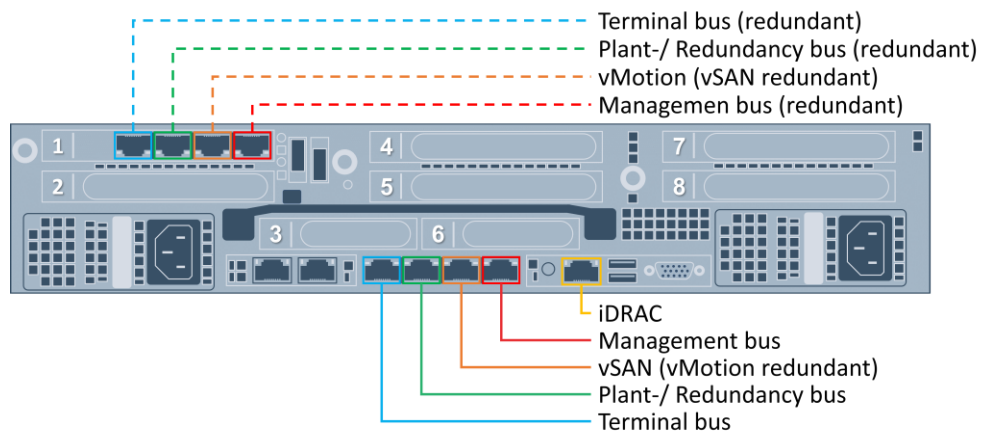
The following variants of the hardware components are available and are assembled according to customer requirements. All servers are HPE ProLiant servers or Dell PowerEdge servers, 19" with 2 height units.

Below is a schematic view of the back of the server:

- SIVaaS vSAN virtualization server (HPE ProLiant)



- SIVaaS vSAN virtualization server (Dell PowerEdge)



The hardware details can be taken from the following chapter.

2 Description of service

Table 2-8

| Name | Host System / Configuration | Comment |
|--|---|--|
| <p>HPE ProLiant DL380 Gen10 Server</p> | <p>16x1 vSAN HPE Host System "S"</p> <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SDD System¹ • 800GB SSD Cache • 4.8TB SSD Datastore² • 8x 10 Gbit/ network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 4 add. memory extension slots ○ 2 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (±2HU) | <p>Article number: 9LA1110-6SV00-1HL8</p> |
| | <p>24x1 vSAN HPE Host System "M"</p> <ul style="list-style-type: none"> • High performant 24 Core Intel Server CPU • 192GB Memory • 480GB SDD System¹ • 800GB SSD Cache • 6.4TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ no add. memory extension slots ○ 1 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (±2HU) | <p>Article number: 9LA1110-6SV00-1HM8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|---------------------|---|--|
| DELL PowerEdge R750 | <p>16x1 vSAN DELL Host System "S"</p> <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SDD System¹ • 1.9TB SSD Cache • 4.8TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 12 add. memory extension slots ○ 9 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≅2HU) | <p>Article number: 9LA1110-6SV00-2HL8</p> |
| | <p>24x1 vSAN DELL Host System "M"</p> <ul style="list-style-type: none"> • High performant 24 Core Intel Server CPU • 192GB Memory • 480GB SDD System¹ • 1.9TB SSD Cache • 6.4TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 10 add. memory extension slots ○ 8 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≅2HU) | <p>Article number: 9LA1110-6SV00-2HM8</p> |

¹ approx. net capacity after RAID configuration

² Gross capacity before vSAN configuration

2 Description of service

2.1.3.1.2 The SIVaaS vSAN Host WITH Microsoft Datacenter licensing

Similar to SIVaaS Standard 2-CPU systems, SIVaaS vSAN 2-CPU systems are also delivered with a Microsoft Datacenter license.

| | |
|---------------|---|
| NOTICE | The SIVaaS 16x2 and 24x2 hosts do not require additive Windows licenses for the VM. |
|---------------|---|

Table 2-9

| Name | Host System / Configuration | Comment |
|---------------------------------|--|--|
| HPE ProLiant DL380 Gen10 Server | <p>16x2 vSAN HPE Host System "L"</p> <ul style="list-style-type: none"> • 2 High performant 16 Core Intel Server-CPU • 256GB MEMORY • 480GB SDD System¹ • 1.6TB SSD Cache • 9.6TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 8 add. memory extension slots ○ 6 add. storage extension slots ○ 4 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≙2HU) | <p>Article number: 9LA1110-6SV00-1HN8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|---------------------|---|--|
| | <p>24x2 vSAN HPE Host System "XL"</p> <ul style="list-style-type: none"> • 2 High performant 24 Core Intel Server-CPU • 384GB MEMORY • 480GB SDD System¹ • 1.6TB SSD Cache • 12.8TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ no add. memory extension slots ○ 4 add. storage extension slots ○ 4 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | <p>Article number: Not available for single order</p> |
| DELL PowerEdge R750 | <p>16x2 vSAN DELL Host System "L"</p> <ul style="list-style-type: none"> • 2 High performant 16 Core Intel Server-CPU • 256GB Memory • 480GB SDD System¹ • 1.9TB SSD Cache • 9.6TB SSD Datastore² • 8x 10 Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 24 add. memory extension slots ○ 6 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≅2HU) | <p>Article number: 9LA1110-6SV00-2HN8</p> |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|--|
| | <p>24x2 vSAN DELL Host System "XL"</p> <ul style="list-style-type: none"> • 2 High performant 24 Core Intel Server-CPU • 384GB Memory • 480GB SDD System¹ • 1.9TB SSD Cache • 12.8TB SSD Datastore² • 8x 10Gbit/s network ports (RJ45) <p><u>Extension possibilities:</u></p> <ul style="list-style-type: none"> ○ 20 add. memory extension slots ○ 4 add. storage extension slots ○ 1 add. PCI / PCIs extension slots <ul style="list-style-type: none"> • Redundant 1100W power supply • DELL iDRAC • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 48,2 x 75,8 x 8,68 (≅2HU) | <p>Article number: 9LA1110-6SV00-2HP8</p> |

¹ approx. net capacity after RAID configuration

² Gross capacity before vSAN configuration

Software

The following VMware Software is included with the host server:

Table 2-10

| Name | Host System / Configuration | Comment |
|-----------------|---|---|
| VMware Software | <ul style="list-style-type: none"> • VMware vSphere 7 Standard Hypervisor (ESXi) incl. VMWare vSAN 7 Standard • VMware vCenter Server 7 | <p>Article number: Not available for single order</p> <p>Article number: vCenter Standard 9LA1110-6SV05-0VS1</p> <p>vCenter Foundation 9LA1110-6SV05-0VF1</p> |

The network used for synchronization is fully designed in 10 Gbit/s and therefore requires a high-performance network switch. This is available in the following versions as part of the IADC.

Table 2-11

| Name | Host System / Configuration | Comment |
|--------------------------------|---|--|
| HPE Flex Fabric Switch | <p>FF 5710 Switch Hardware</p> <ul style="list-style-type: none"> • 24x RJ45 Port (10/1 Gbit/s) • 6x QSFP+ Slot (40/10 Gbit/s) or 2x QSFP28 (100 Gbit/s) • 1x Adapter cable from 1xQSFP+ to 4xSFP+ (10 Gbit/s) • Redundant power supply • 100 VAC–240 VAC, C14 IEC socket • Dimensions (WxDxH in cm): 44 x 40 x 4,4 (≅1HU) | <p>Article number: 9LA1110-6SV00-1SC0</p> |
| DELL POWERSWITCH S4112T Switch | <p>S4112T Switch Hardware</p> <ul style="list-style-type: none"> • 12x RJ45 Port (10 / 1 Gbit/s) • 3x QSFP28 (100 Gbit/s) • Redundant power supply • 100 VAC–240 VAC, C14 IEC socket • Dimensions (WxDxH in cm): 43,1x 45,7 x 4,4 (≅1HU) | <p>Article number: 9LA1110-6SV00-2SC0</p> |

2.1.3.2 Delimitation

- For reasons of sustainability, all components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W

power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies, or 1260W/h for the 1100W DELL server power supplies.

- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-8 and Table 2-9 in individual cases. It must be ensured that the manufacturer's recommendations for hardware design are adhered to.
- The provision of the network configuration information by the customer is a prerequisite for installation.
- Project-specific configuration on the part of the management network is necessary due to the system and must be announced by customers in advance (see network configuration list SIVaaS). Further project-specific configuration services (e.g. IP addresses, host names, passwords) are not included and must be ordered separately.
- Unless otherwise specified in the order or delivery papers, the network components are supplied as standard without (Q)SFP+ fiber optic transceivers.
- QSFP+ slots can be used from a minimum speed of 10 Gbit/s. Throttling to less than 10 Gbps is not supported.
- The limit of supply is in the standard scope of delivery at the switch. Connections to other existing IT infrastructure are the responsibility of the customer. Support from Siemens can be offered as an option.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.

2.1.4 SIVaaS – Host extension components

In order to be able to customize the servers used to all customer requirements, even outside the standard configuration, individual components are offered as expansion components.

Table 2-12

| Name | Host-System / Configuration | Comment |
|--------------------------------|--|------------------------------------|
| IADC - SIVaaS – Host extension | 4-Port 1 Gbit/s network card RJ45, for HPE Server | MLFB: 9LA1110-6SV00-1CA0 |
| | 2-Port 10 Gbit/s network card SFP+, for HPE Server | MLFB: 9LA1110-6SV00-1CA1 |
| | 2-Port 10 Gbit/s network card RJ45, for HPE Server | MLFB: 9LA1110-6SV00-1CA2 |
| | Memory Extension RAM Kit 2x16 GB for HPE Server | MLFB: 9LA1110-6SV00-1CB1 |
| | 4-Port 1 Gbit/s network card RJ45, for Dell Server | MLFB: 9LA1110-6SV00-2CA0 |
| | 4-Port 10 Gbit/s network card RJ45, for Dell Server | MLFB: 9LA1110-6SV00-2CA2 |
| | Memory Extension RAM Kit 2X32 GB for Dell Server | MLFB: 9LA1110-6SV00-2CB1 |

2.1.5 SIVaaS – Virtual Machines

2.1.5.1 Services

- VMs specially created for use in the IADC, which are tested and approved for error-free operation
- Each VM is subject to a hardening concept in which unused services, software and users are deactivated, uninstalled and/or renamed
- Pre-installed Windows Server operating system with license provided
- Pre-Installed Software and Services
- Highly standardized configuration based on templates and baselines
- System test of each component to ensure smooth operation

2.1.5.1.1 VM for SIVaaS systems

The following VMs are available:

2 Description of service

Table 2-13

| Name | Host System / Configuration | Comment |
|----------------------------------|--|--|
| IADC - SIVaaS – Virtual Machines | PCS 7 V9.1 SP2 OS Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1AC0 |
| | PCS 7 V9.1 SP2 OS Client (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1HC0 |
| | PCS 7 V9.1 SP2 Engineering Station (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Host Diagnostic Interface (HDI) for the integration of System Diagnostic in PCS 7 Maintenance Station • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1GC5 |
| | PCS 7 V9.1 SP2 Batch Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1LC0 |
| | PCS 7 V9.1 SP2 Batch Client (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1JC0 |
| | PCS 7 V9.1 SP2 Route Control Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1MC0 |
| | PCS 7 V9.1 SP2 Route Control Client (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1NC0 |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|---|
| | PCS 7 V9.1 SP2 Information Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1KB5 |
| | Host Diagnostic Broker V3.1 for PCS 7 (HDB) (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-1PA3 Note: Only in SIVaaS Release 3.7 |
| | SIMIT V11 Simulation Framework (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-0SN5 |
| | SIMIT V11 Virtual Controller (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-0SN6 |
| | IGEL UMS V1.2 <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Pre-installed SIMATIC application software including basic configuration | Article number: 9LA1110-6SV05-0UM2 |
| | WIN 2019 only <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” | Article number: 9LA1110-6SV05-0AA6 |
| | WSUS ready <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Prepared additional functionality WSUS | Article number: 9LA1110-6SV05-0BA2 |
| | DNS ready <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening” • Prepared additional functionality DNS | Article number: 9LA1110-6SV05-0BA3 |

2 Description of service

Table 2-14

| Name | Host System / Configuration | Comment |
|----------------------------------|---|--|
| IADC - SIVaaS – Virtual Machines | TIA Portal V18 Engineering Station (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled Application software incl. basic configuration | Article number: 9LA1110-6SV05-4AA3 |
| | TIA Portal V18 OS Server (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled Application software incl. basic configuration | Article number: 9LA1110-6SV05-4BA3 |
| | TIA Portal OS Client (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled Application software incl. basic configuration | Article number: 9LA1110-6SV05-4BB3 |
| | WinCC V8 Server (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-2AA7 |
| | WinCC V8 Client (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-2BA7 |
| | WinCC V8 Engineering Station (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-2AB7 |
| | Braumat V8 Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3AA2 |
| | Braumat V8 Client (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented “system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3AB2 |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|---|--|
| | Braumat V8 Engineering Station (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3AC2 |
| | Braumat V8 SQL (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3AD2 |
| | Sistar V8 Server (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3BA2 |
| | Sistar V8 Client (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3BB2 |
| | Sistar V8 Engineering Station (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3BC2 |
| | Sistar V8 SQL (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening • Preinstalled SIMATIC Application software incl. basic configuration | Article number: 9LA1110-6SV05-3BD2 |
| | Windows Only Server 2016 (W2016) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening | Article number: 9LA1110-6SV05-0AC2 |
| | Windows Only Server 2019 (W2019) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening | Article number: 9LA1110-6SV05-0AC1 |
| | Windows Only Server 2022 (W2022) <ul style="list-style-type: none"> • System tested virtual appliance • Preconfigured operating system • Implemented "system hardening | Article number: 9LA1110-6SV05-0AC0 |

| | |
|---------------|---|
| NOTICE | <p>The Microsoft Windows Server Standard licenses required for the SIVaaS ECO hosts are available under article number 9LA1110-SV00-1WS0 (per VM).</p> <p>The Microsoft Windows Server Standard licenses required for all SIVaaS 16x1 host variants are available under item number 9LA1110-6SV00-1WS0 (per VM).</p> <p>The Microsoft Windows Server Standard licenses required for all SIVaaS 24x1 hosts are available under article number 9LA1110-6SV00-1WS1 (per VM).</p> |
|---------------|---|

2.1.5.2 Delimitations

- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- Unless explicitly mentioned, no licenses of any pre-installed application software are included.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.
- In the case of repeat orders of VM without specifying a dedicated SIVaaS version, the SIVaaS version used at the time of the initial order is taken as a basis and delivered.

2.1.6 SIVaaS – Thin Clients and Management Console

To round up our IADC portfolio, we also offer thin clients and monitors to deliver fully integrated data centers.

2.1.6.1 Services

The following variants of the hardware components are available and are assembled according to customer requirements. The hardware details can be taken from the following table:

Table 2-15

| Name | Host System / Configuration | Comment |
|---------------------|--|--|
| HP T640 Dual Screen | Thin Client <ul style="list-style-type: none"> • AMD Ryzen • 8GB MEMORY • AMD Radeon Vega 3 Graphics • 1x 1 Gbit/s network ports (RJ45) • 3x Display Port • Singular power supply • For Management Console | |
| | WIN10 English <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP10-7GA0 |
| | WIN10 German <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP10-7EA0 |
| | Igel OS English <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP10-7CA0 |
| | Igel OS German <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP10-7AA0 |

Table 2-16

| Name | Host System / Configuration | Comment |
|---------------------|---|--|
| HP T740 Quad Screen | Thin Client <ul style="list-style-type: none"> • AMD Ryzen • 8GB MEMORY • AMD Radeon Vega 8 Graphics • 64 GB M.2 SSD • 1x 1 Gbit/s network ports (RJ45) • 4x Display Port • Singular power supply | |
| | WIN10 English <ul style="list-style-type: none"> • Quad Screen configuration | Article number: 9LA1110-6SP25-7HA0 |
| | WIN10 German <ul style="list-style-type: none"> • Quad Screen configuration | Article number: 9LA1110-6SP25-7FA0 |
| | Igel OS English <ul style="list-style-type: none"> • Quad Screen configuration | Article number: 9LA1110-6SP25-7DA0 |
| | Igel OS German <ul style="list-style-type: none"> • Quad Screen configuration | Article number: 9LA1110-6SP25-7BA0 |

2 Description of service

| Name | Host System / Configuration | Comment |
|---------------------|--|--|
| HP T655 Dual Screen | ThinClient <ul style="list-style-type: none"> • AMD Ryzen • 8GB MEMORY • 64 GB M.2 SSD • 1x 1 Gbit/s network ports (RJ45) • 3x Display Port • Singular power supply • For Management Console | |
| | WIN10 English <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP25-7LA0 |
| | WIN10 German <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP25-7KA0 |

Table 2-17

| Name | Host System / Configuration | Comment |
|-------------------------|---|--|
| DELL 3000TC Dual Screen | Thin Client <ul style="list-style-type: none"> • Intel Celeron • 8GB MEMORY • 256GB M.2 SSD • Intel Integrated Graphics • 1x 1 Gbit/s network ports (RJ45)) • 3x Display Port • Singular power supply • For Management console | |
| | WIN10 English <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP25-7LB0 |
| | WIN10 Deutsch <ul style="list-style-type: none"> • Dual Screen configuration | Article number: 9LA1110-6SP25-7KB0 |

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2.1.6.2 Delimitations

- The thin clients and management consoles have an external plug-in power supply unit with an IEC C5 power cable.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- When using IGEL OS, the use of the UMS VM for central administration is recommended, see Chapter 2.1.4 "SIVaaS - Virtual Machines".

2.2 SIMATIC DCS / SCADA Infrastructure (SIDS)

"SIMATIC DCS/SCADA Infrastructure" (SIDS) offers a powerful and pre-configured IT infrastructure with pre-installed but unlicensed software. A prefabricated complete system ensures that assembly and commissioning can be carried out as efficiently as possible. Another feature of SIDS is data availability, backup and restore.

2.2.1 SIDS – Process Historian

The preconfigured Process Historian / Information Server (PH/IS) is designed for maximum performance and the best user experience and can be configured in a highly flexible manner, depending on customer requirements.

2.2.1.1 Services

Hardware

SIDS PH systems include the following specifications (excluding hard disk and memory expansion). All servers are HPE ProLiant server, 19" with 2 height units.

Below is a schematic view of the back of the server:

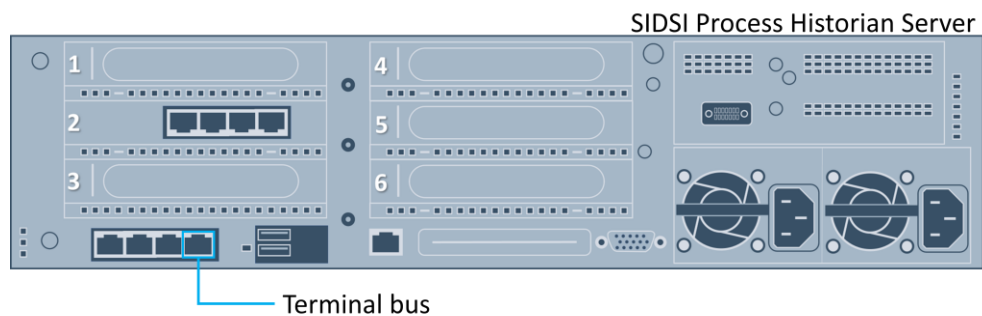


Table 2-18

| Name | Host System / Configuration | Comment |
|----------------|--|--|
| SIDS PH Server | <p>SIDS PH Server</p> <ul style="list-style-type: none"> • Performant 8 Core Intel Server CPU • 480GB SSD System¹ • 8x 1 Gbit/s network ports (RJ45) • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,54 x 67,94 x 8,73 (≅2HU) | <p>Note: Windows 2019 Server & PH / IS 2020 SP2 Upd 2</p> |

¹ approx. net capacity after RAID configuration

2 Description of service

A system specification can then be selected from the SIDS I portfolio. The following options are available, which are added to the specifications from Table 2-8 Table 2-18:

Table 2-19

| Name | Host System / Configuration | Comment |
|------------------|--|--|
| SIDS I PH Server | Size M <ul style="list-style-type: none"> 96GB Memory 5.76TB SSD Datastore¹ | Article number: 9LA1110-6PH22-0AA0 |
| | Size L <ul style="list-style-type: none"> 128GB Memory 13.4TB SSD Datastore¹ | Article number: 9LA1110-6PH22-0AA1 |

¹ approx. net capacity after RAID configuration

2.2.1.2 Delimitation

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies.
- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-18 and **Fehler! Verweisquelle konnte nicht gefunden werden.** in individual cases.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- Providing the host name already at the time of ordering is a prerequisite for the installation.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.

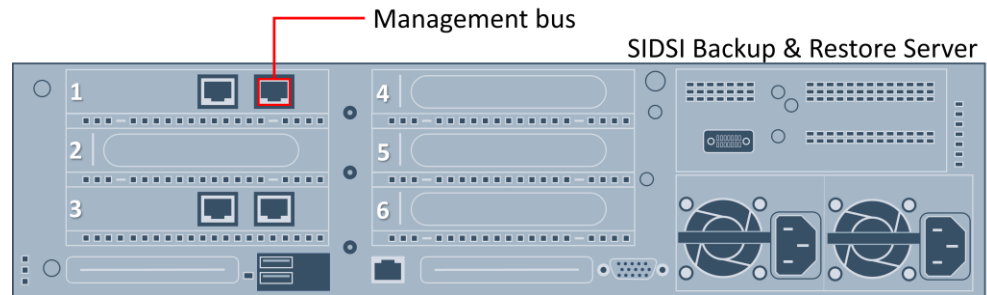
2.2.2 SIDS – Backup and Restore Professional

Nowadays, a reliable backup is an important part of every data center solution. Here, the IADC can be extended with the "Backup and Restore" (B&R).

2.2.2.1 Services

The server hardware of SIDS Backup and Restore is also based on the well-known HPE DL380 servers.

Below is a schematic view of the back of the server:



The hardware details can be taken from the following table.

Table 2-20

| | | |
|---------------------------------|--|---|
| HPE ProLiant DL380 Gen10 Server | <p>SIDSI Backup & Restore Professional</p> <ul style="list-style-type: none"> • Performant 12 Core Intel Server CPU • 16GB Memory • 480GB SSD System¹ • 24TB Datastore¹ • 4x 10 Gbit/s network ports (RJ45) • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Veeam Backup & Replication 11 • without Veeam Instance Licenses • Dimensions (WxDxH in cm): 44,54 x 73,02 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SP23-0AA0</p> <p>Note: Ordering the B&R instance license 9LA1110-6SP23-0AB2 is mandatory</p> |
| | <p>SIDSI Backup & Restore Professional</p> <ul style="list-style-type: none"> • Performant 12 Core Intel Server CPU • 16GB Memory • 480GB SSD System¹ • 24TB Datastore¹ • 4x 10 Gbit/s network ports (RJ45) • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Veeam Backup & Replication 12 • without Veeam Instance Licenses • Dimensions (WxDxH in cm): 44,54 x 73,02 x 8,73 (≅2HU) | <p>Article number: 9LA1110-6SP25-0AA0</p> <p>Note: Ordering the B&R instance license 9LA1110-6SP23-0AB2 is mandatory</p> |

¹ approx. net capacity after RAID configuration

2.2.2.2 Delimitations

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies.
- The provision of the network configuration information by the customer is a prerequisite for installation.
- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-20 in individual cases.

- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- Due to the variable number of instances to be backed up, no instance license is included in the scope of delivery of the SIDS I Backup & Restore Server and is mandatory to order.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.

2.2.3 SIDS I – Tape Drive

2.2.3.1 Services

To increase data integrity as well as data security, IADC offers an extension for Backup & Restore: Data Backup to Tape. Here, the backup can subsequently be physically separated and/or stored in a fireproof cabinet. This makes it very easy to increase the availability of a backup.

Table 2-21

| Name | Host System / Configuration | Comment |
|--------------------------|---|--|
| HPE StoreEver Tape Drive | SIDS I Tape Drive <ul style="list-style-type: none"> • Total storage capacity: 96TB (uncompressed)/ 240TB (compressed) • 8 exchangeable media • Redundant power supply • incl. 10x 15TB cartridges • incl. 2x Cleaning cartridges • Dimensions (WxDxH in cm): 48,2 x 80,9 x 4,4 (≅1HU) | Article number: 9LA1110-6SP10-1TA5 |

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2.2.3.2 Delimitations

- For reasons of sustainability, all components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- Preconfiguration of the tape drive within the "Backup & Restore Server" is not included and must be ordered separately.

2.2.4 SIDSI – Peripherals

SIDSI Peripherals is a compilation of the most important hardware components for our customers to fully complete the IADC service offering.

2.2.4.1 Services

Hardware

The following components are included in the scope of supply and can optionally be added to the IADC with customer-specific quantities:

Table 2-22

| Name | Host System / Configuration | Comment |
|----------------|--|--|
| IADC Rack S | 22HU SIDSI - Server Rack Size "S" <ul style="list-style-type: none"> • 22U HPE G2 ShockRack • Rack capacity ca. 1360 kg static • Flap color black with flush handle • Includes 2 side panels, perforated lid, grounding kit and PowerDistributionUnits (PDU) • Frame color: black • Rack depth: 107,5 cm • Rack width: 60 cm • Rack height: 22 U • Cabinet dimensions (WxDxH in cm): 110,84 x 59,78 x 112,52 | Article number: 9LA1110-6SP10-5BA2 Note: The article number does not provide for cabling. This can optionally be added additively and project-specifically Article number Assembly: (per component) 9LA1110-6SP10-6AB1 Article number cabling: (per component) 9LA1110-6SP10-6AC1 |
| IADC Rack M | 36HU SIDSI - Server Rack Size "M" <ul style="list-style-type: none"> • 36U HPE G2 ShockRack • Rack capacity ca. 1360 kg static • Flap color black with flush handle • Includes 2 side panels, perforated lid, grounding kit and PowerDistributionUnits (PDU) • Frame color: black • Rack depth: 107,5 cm • Rack width: 60 cm • Rack height: 36 U • Cabinet dimensions (WxDxH in cm): 174,39 x 59,78 x 108,52 | Article number: 9LA1110-6SP10-5BA1 Note: The article number does not provide for cabling. This can optionally be added additively and project-specifically Article number Assembly: (per component) 9LA1110-6SP10-6AB1 Article number cabling: (per component) 9LA1110-6SP10-6AC1 |

2 Description of service

| Name | Host System / Configuration | Comment |
|--------------------------------------|---|--|
| IADC Rack L | 42HU SIDS I - Server Rack Size "L" <ul style="list-style-type: none"> • 42U HPE G2 ShockRack • Rack capacity ca. 1360 kg static • Flap color black with flush handle • Includes 2 side panels, perforated lid, grounding kit and PowerDistributionUnits (PDU) • Frame color: black • Rack depth: 120 cm • Rack width: 80 cm • Rack height: 42 U • Cabinet dimensions (WxDxH in cm): 200,66 x 79,78 x 130,02 | Article number: 9LA1110-6SP10-5BA0 Note: The article number does not provide for cabling. This can optionally be added additively and project-specifically Article number Assembly: (per component) 9LA1110-6SP10-6AB1 Article number cabling: (per component) 9LA1110-6SP10-6AC1 |
| USV Small | <ul style="list-style-type: none"> • 220/240- 230 V AC • Power: 2700 Watt / 3000 VA • Input: IEC C20 • Output: 8x IEC C13; 1x IEC C-19 • Incl. Network Management Card • Non extendable • Dimensions (WxDxH in cm): 44,19 x 64,77 x 8,63 (≙2HU) | Article number: 9LA1110-6SP10-5AA0 Important: The UPS model is to be used exclusively for 230V / AC |
| USV Large | <ul style="list-style-type: none"> • 220/240- 230 V AC • Power: 5400 W / 6000 VA • Input: IEC 60309 32A • Output: <ul style="list-style-type: none"> ○ 1 x IEC 60309 32A, ○ 4 x IEC 60320 C13 16 A + 4 x C19 16 A • Integrated Network Management Card • Extendable with up to 3 Battery Packs • Dimensions (WxDxH in cm): 44,39 x 12,95 x 7,21 (≙2HU without additional Battery Packs) | Article number: 9LA1110-6SP10-5AB0 Important: The UPS model is to be used exclusively for 230V / AC |
| SIDS I Workstation Monitor 24" | <ul style="list-style-type: none"> • Monitor for 24/7 use • Incl 5 years "Next Business Day Onsite support" • 24 Inch (61 cm), 16:10 and 16:9 • resolution 1920 x 1200 / 1900 x 1080 @ 60 Hz • 1 x HDMI 1.4, Display Port 1.2 • 4 x USB-A 3.2 Gen 1 • Without integrated speaker | Article number: 9LA1110-6SP11-1AA0 |
| Monitor- mounts | SIDS I Dual-Monitor Desktop Stand <ul style="list-style-type: none"> • Free standing monitor stand • VESA 75x75, 100x100cm • For up to 2 screens, up to 24 inches | Article number: 9LA1110-6SP11-2AA1 |

2 Description of service

| Name | Host System / Configuration | Comment |
|--------------------------|---|--|
| | SIDSI Quad-Screen Desktop Stand <ul style="list-style-type: none"> Free standing monitor stand VESA 75x75, 100x100cm For up to 4 screens, up to 27 inches | Article number: 9LA1110-6SP11-2AA2 |
| | SIDSI Dual-Screen Desktop Mount <ul style="list-style-type: none"> Two articulated arms with table/desk mount VESA 75x75, 100x100cm For up to 2 screens, up to 24 inches | Article number: 9LA1110-6SP11-2AB1 |
| | SIDSI Dual-Screen Desktop Mount <ul style="list-style-type: none"> Bracket for four monitors (2x2) VESA 75x75, 100x100cm For up to 4 screens, up to 27 inches | Article number: 9LA1110-6SP11-2AB2 |
| USB Connect | <ul style="list-style-type: none"> Digi Anywhere USB hubs for connecting license dongles and other USB devices. Available with 2 ports / 8 ports (not 19" mountable) or 24 USB ports (19" mountable). | Article number: 2 Port 9LA1110-6SP11-6AA1 8 Port 9LA1110-6SP11-6AB1 24 Port 9LA1110-6SP11-6AC1 |
| Process control keyboard | <ul style="list-style-type: none"> Keyboard with 90 freely configurable keys Simplified operation Allows different setup types and use cases | Article number: 9AE4270-1AA0 |

2.2.4.2 Delimitations

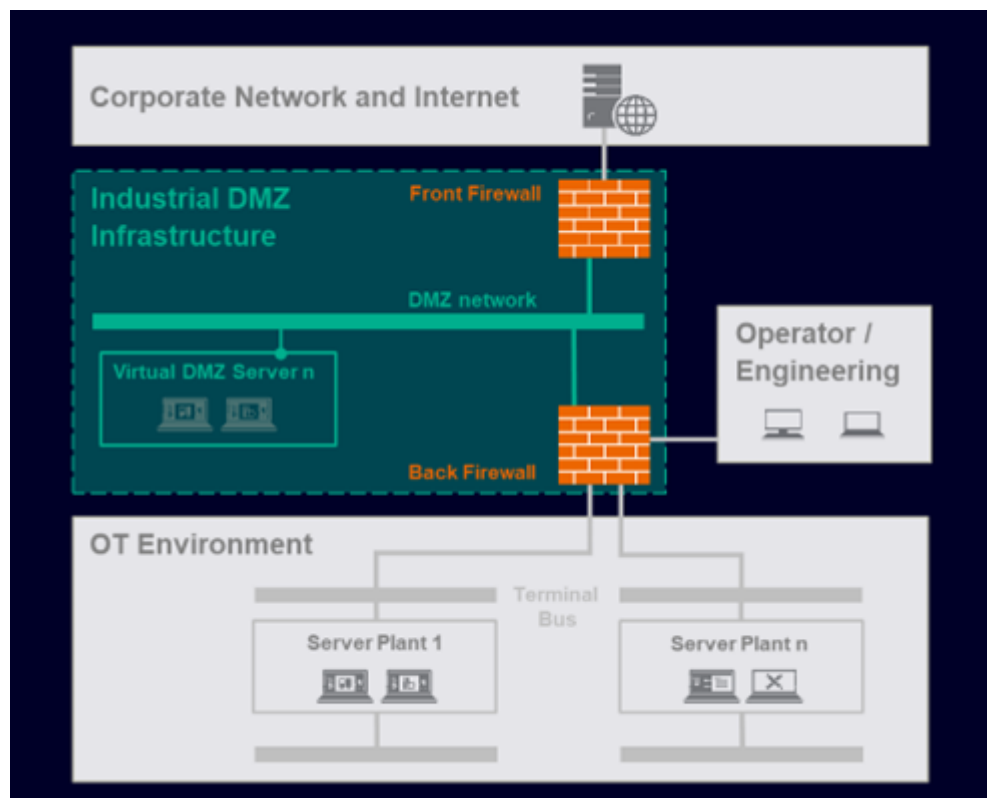
- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The UPS is powered by a single-phase 230V 32A CEE plug. On the output side, all UPS models are exclusively designed for the 230V / 50Hz application range.
- Without UPS, power is supplied to the Power Distribution Unit (PDU) via C19 plugs (included).
- The calculation of the estimated, minimum bridging time of the UPS is based on the maximum power consumption of the installed components.
- The Digi Anywhere USB hubs have an external plug-in power supply.
- For project-specific wiring of the server cabinet, the delivery limit ends at the switch in the IADC cabinet, unless otherwise specified.
- Any wiring must be clarified with DI CS PA CVC before receipt of order / order, a network plan before ordering is mandatory.
- Additional fasteners may be installed in the rack for transport security (e.g. for the UPS/UPS). If these are no longer needed, they can be removed. Note that after removing the fuses and subsequent transport / moving a transport damage can occur.

2.3 Industrial DMZ Infrastructure (IDMZ)

The Industrial DMZ Infrastructure (IDMZ) is a ready-to-use concept for IT/OT network segmentation with integrated security features. Thanks to the combined Siemens OEM know-how in the areas of automation, digitalization and cybersecurity, the solution is optimized for use in production and meets the highest availability and cybersecurity requirements.

IT/OT-Network Segmentation

The IDMZ with redundant front and back firewalls protects the OT systems from unauthorized access from "outside" and also segments the OT network, which is worth protecting and often critical to production, from unauthorized access from IT networks.



State-of-the-Art

The implemented Next Generation Firewall extends classic protocol and port-based rules by data analysis on application level (Layer 7), so-called "Deep-Package Inspection" and thus intensifies the protection against unauthorized communication compared to classic firewalls.

Virtualized DMZ

The services available in the IDMZ (e.g., Remote Access, File Exchange, Active Directory) are provided as virtual machines on a separate high-performance virtualization host. This enables a fully comprehensive cybersecurity portfolio to be realized while maintaining the smallest possible footprint.

2.3.1 IDMZ – Virtualization host

A virtualization server with VMware ESXi taken from the SIVaaS portfolio and adapted to the IDMZ serves as the basis for the IDMZ virtualization. One host hardware type was qualified and specially configured for use in the IDMZ

2.3.1.1 Services

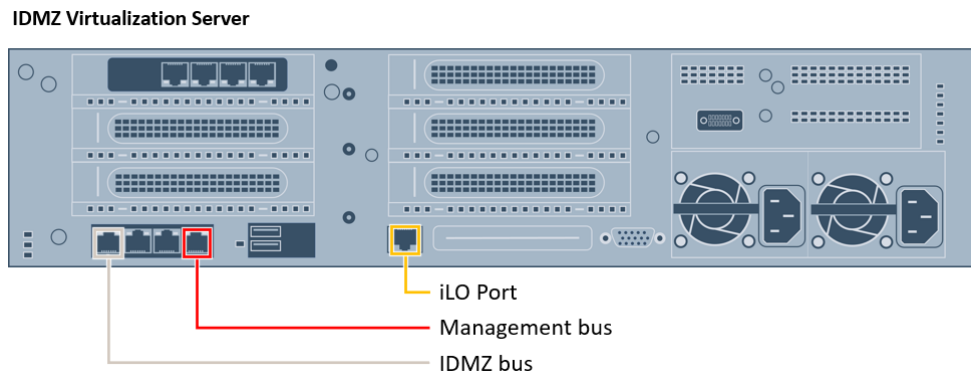
Identical to SIVaaS 1-CPU systems, the IDMZ 1-CPU host does not include a Windows Datacenter license.

| | |
|---------------|--|
| NOTICE | The Microsoft licenses required for the VMs of the two IDMZ standard hosts are available under article number 9LA1110-6SV00-1WS0 (per VM). |
|---------------|--|

Hardware

The following variants of the hardware components are available and are assembled according to customer requirements. The server is based on a HPE ProLiant server, 19" with 2 height units.

Below is a schematic view of the back of the server:



The hardware details can be taken from the following table.

2 Description of service

Table 2-23

| Name | Host System / Configuration | Comment |
|---------------------------------|---|--|
| HPE ProLiant DL380 Gen10 Server | 16x1 HPE Host System "S" <ul style="list-style-type: none"> • High performant 16 Core Intel Server CPU • 128GB Memory • 480GB SSD System¹ • 3.2TB SSD Datastore¹ • 8x 1 Gbit/s network ports (RJ45) Extension possibilities: <ul style="list-style-type: none"> ○ 4 add. memory extension slots ○ 3 add. storage extension slots ○ 2 add. PCI / PCIs extension slots • Redundant 800W power supply • HPE iLO Advanced • System tested, reconciled, and preconfigured host hardware • System-specific installation and configuration of the ESXi hypervisor • Operation specific configuration, e.g., of network, datastore, fail-over • System documentation including backup of the delivery state • Dimensions (WxDxH in cm): 44,55 x 76,00 x 8,73 (≅2HU) | Article number: 9LA1110-6SY12-1HC8 |

¹ approx. net capacity after RAID configuration

2.3.1.2 Delimitation

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The cooling capacity of the installation site is to be defined according to the heat emission of the server hardware. This is between 560W/h (per 500W power supply) and 940 W/h (per 800W power supply) for the HPE server power supplies.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.
- The hardware can be adapted by project-specific configuration and thus deviate from the specifications given in Table 2-23 in individual cases. It must be ensured that the manufacturer's recommendations for hardware design are adhered to.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.

2.3.2 Virtual machines of the IDMZ

For the IDMZ host, there are application-specific virtual machines that have been individually configured for use within the IDMZ.

2 Description of service

As with all components in the IADC environment, the IDMZ VMs are specially hardened for use, system-tested and then released.

2.3.2.1 Services

Table 2-24

| Name | Host System / Configuration | Comment |
|--------------------------------|---|--|
| IADC - IDMZ – Virtual Machines | Jumphost <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM6 |
| | Update Service (WSUS) <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM9 |
| | Management Server <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM7 |
| | Domain Name System (DNS) <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM3 |
| | Information Server <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM5 |
| | Data Exchange Server <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented “system hardening” • Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM1 |

2 Description of service

| Name | Host System / Configuration | Comment |
|------|--|--|
| | Network Monitor Server <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented "system hardening" • Pre-installed application software including basic configuration (PRTG) | Article number: 9LA1110-6SY12-1VM8 |
| | Endpoint-Protection <ul style="list-style-type: none"> • Preconfigured Windows 2019 server operating system • System tested virtual appliance • Implemented "system hardening" Pre-installed application software including basic configuration | Article number: 9LA1110-6SY12-1VM4 |

2.3.2.2 Delimitations

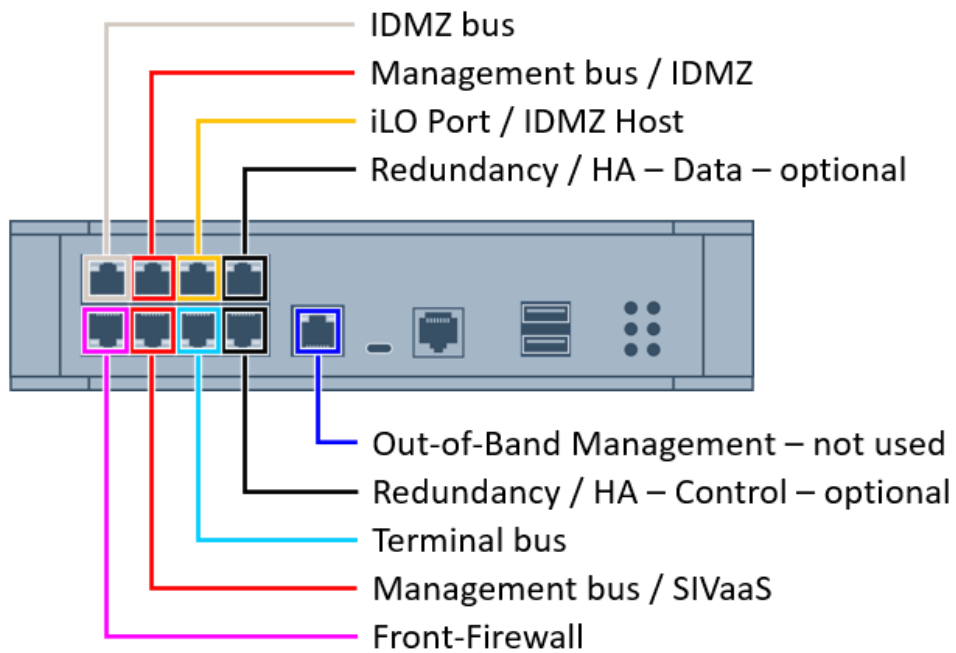
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.
- Unless explicitly mentioned, no licenses of any pre-installed application software are included.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.
- In the case of repeat orders of VM without specifying a dedicated SIVaaS version, the SIVaaS version used at the time of the initial order is taken as a basis and delivered.

2.3.3 IDMZ Firewalls

The 2 firewalls connected in series (front and back firewall) serve to increase security when accessing the OT network. Access from outside the IDMZ to the security zone of the OT network must pass through 2 firewalls and is filtered by both. In the default configuration of the IDMZ, it is only connected to the back firewall. The back firewall is connected to the external networks such as Enterprise Control Network or Internet via the front firewall.

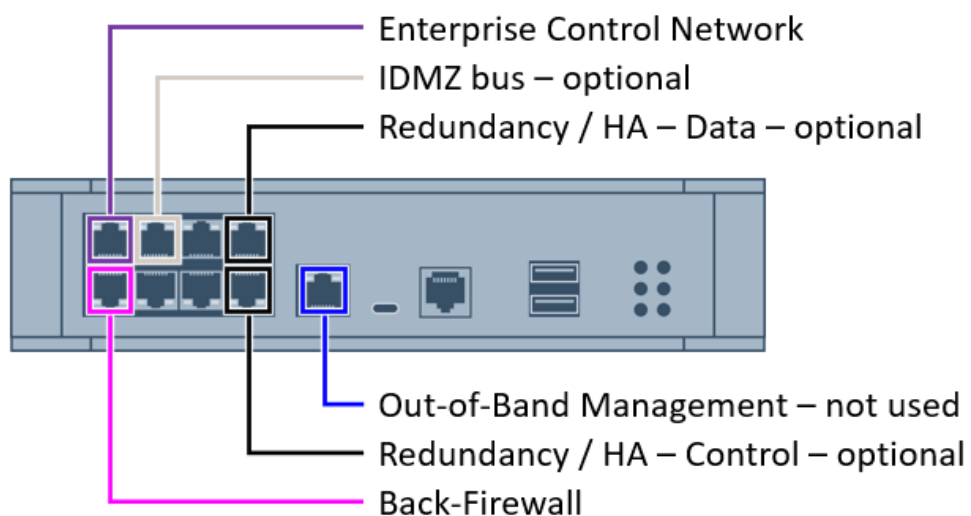
Port assignment Back-Firewall

IDMZ – Back-Firewall



Port assignment Front-Firewall

IDMZ – Front-Firewall



2 Description of service

2.3.3.1 Services

Table 2-25

| Name | Host System / Configuration | Comment |
|---------------------------------|--|--|
| IADC - IDMZ – Front-Firewall | Front-Firewall PA-440 Standard <ul style="list-style-type: none"> • High performant Next Generation Firewall • Max concurrent sessions: 200.000 • IPsec VPN throughput: 0.92 Gbps • Redundant power supply • 100 - 240 V AC • Application specific pre-configuration of the firewall • Predefined rule sets • 19"mounting kit for firewall • Dimensions (WxDxH in cm): 22,43x 22,43x 4,42 (≅1HU) | Article number: 9LA1110-6SY12-1AB1 |
| | Front-Firewall PA-440 High Available (HA) <ul style="list-style-type: none"> • 2 High performant Next Generation Firewall • Max concurrent sessions: 200.000 • IPsec VPN throughput: 0.92 Gbps • Redundant power supply • 100 - 240 V AC • Application specific pre-configuration of the firewall • Predefined rule sets • High-Availability configuration incl. redundant design of the hardware • 19"mounting kit for HA-firewall • Dimensions (WxDxH in cm): 22,43x 22,43x 4,42 (≅1HU) | Article number: 9LA1110-6SY12-2AB1 |
| IADC - IDMZ – Back-Firewall | Back-Firewall PA-440 Standard <ul style="list-style-type: none"> • High performant Next Generation Firewall • Max concurrent sessions: 200.000 • IPsec VPN throughput: 0.92 Gbps • Redundant power supply • 100 - 240 V AC • Application specific pre-configuration of the firewall • Predefined rule sets • 19"mounting kit for firewall • Dimensions (WxDxH in cm): 22,43x 22,43x 4,42 (≅1HU) | Article number: 9LA1110-6SY12-1AB2 |
| | Back-Firewall PA-440 High Available (HA) <ul style="list-style-type: none"> • 2 High performant Next Generation Firewall • Max concurrent sessions: 200.000 • IPsec VPN throughput: 0.92 Gbps • Redundant power supply • 100 - 240 V AC • Application specific pre-configuration of the firewall • Predefined rule sets • High-Availability configuration incl. redundant design of the hardware • 19"mounting kit for HA-firewall • Dimensions (WxDxH in cm): 22,43x 22,43x 4,42 (≅1HU) | Article number: 9LA1110-6SY12-2AB2 |

2.3.3.2 Delimitations

- For reasons of sustainability, all server components are delivered exclusively with IEC 60320 power cords with C13 and CEE 7/4(7) plugs.
- The conclusion of a service and support contract (service contract) is mandatory. The content and scope of the service contract are set out in Section 3.
- Project-specific configuration services (e.g., IP addresses, host names, passwords) of the components are not included and must be ordered separately.

3 Service and Support

The Industrial Automation DataCenter is a fully comprehensive virtualization product. Service and support is an important component.

As "one face to the customer", Siemens is the central contact for all service and support concerns of the user in connection with IADC. Since not only reactive service but also preventive software updates are important for the availability of IADC, service and support also includes the provision of software updates. This also explains why the service contract is mandatory for each component.

3.1 Service agreement for SIVaaS elements

The following products are supported under the service agreement:

- SIMATIC PCS 7 (from V8.0 SP1)
- PCS neo (from V4)
- TIA Portal (from V16)
- SIMATIC WinCC (from V7.2 Upd5)
- SIMIT (from V9)
- Braumat & Sistar (from V7.5)
- Hardware components (Server, Thin Clients, Management consoles, network switches)
- Virtualization software (VMware - vSphere ESXi, vCenter Server, vSphere vSAN, vSphere Web Client)

NOTICE:

Current information about the supported software versions can be requested at any time via the compatibility tool:

<https://support.industry.siemens.com/cs/ww/en/view/64847781>

3.1.1 Services

The service contract includes the following services:

Technical Support

Our central technical support organization is supporting in terms of

- Clarification of general technical problems
- Clarification of questions regarding system operation
- Support in the search, analysis and elimination of problems
- Support in the selection and implementation of SW updates
- Coordination of support activities for components from third-party providers (HPE and Veeam)
- No limitation in the number of support requests to be processed

Support processing is limited to 2 h per support request. An additional time quota can be ordered separately.

Supply of spare parts

In case of spare parts, the following services are available:

- Delivery of the required spare parts to the desired location (approx. 1-2 working days after a HW defect has been confirmed by Technical Support)
- On-site service for HPE / DELL spare parts, with which the repair can only be carried out by the appropriate specialist personnel according to the manufacturer's instructions (approx. 1-2 working days after a HW defect has been confirmed by Technical Support). Please note that firmware upgrades may have to be performed on your own responsibility.

Software-Updates and -Upgrades

Software and firmware updates for the hardware components as well as for the VMware software can be requested via Siemens Technical Support and are an exclusive part of an active service contract.

These are tested at regular intervals, several times a year, by system experts for compatibility with SIVaaS, VMware, PCS 7 and other Siemens software applications and provided as a software bundle customized to the project. In addition, the project receives an upgrade guide that leads through the essential steps of the update. If you have any queries, our Technical Support is always available as the first point of contact.

This includes the following components:

- Firmware for all hardware components such as virtualization hosts (HPE and Dell), switches, storage servers.
- Software updates for VMware virtualization software (vCenter, vSphere ESXi, vSAN).
- Windows updates based on a WSUS patch manifest file and additive access to a WSUS orchestrator service provided by Siemens.

- Application updates for Siemens application software, such as PCS 7, SIMIT, WinCC, ...

To ensure compatibility between HPE/Dell and the SIMATIC Application Software the Technical Support is available with corresponding consulting services.

Information and safety instructions for mounting the supplied devices can be found in the manufacturer's product documentation:

HPE Support Center

[Support Center](#)

HPE DL380 Gen10 Server

List of available documents

[HPE ProLiant DL380 Gen10 Server - Document List](#) (English)

User Manual:

[HPE ProLiant DL380 Gen10 Server User Guide](#) (English)

HPE MSA 2062

List of available documents

[HPE MSA 2062 Storage - Manuals and Guides](#) (English)

[HPE ProLiant MSA 2062 Storage - Document List](#) (English)

Dell PowerEdge R750

List of available documents:

[Installation and Service Manual](#) (English)

Contact and scope of technical support

The customer shall designate a contact person and a deputy contact person, each of whom is authorized to receive technical support services. The contact persons must have sufficient technical knowledge and expertise to provide the Siemens support team with information to reproduce and rectify the error that has occurred, such as the name of the customer or end customer, an error description including suitable screenshots to illustrate the incident. The Siemens support team is entitled to contact end customers directly if this is necessary to perform the technical support services.

Subject to availability, Siemens Technical Support provides technical support services to Customer ("Regular Support"). Regular Support is available around the clock exclusively via the web portal at: www.siemens.com/supportrequest. The request will be processed during regular support hours, Monday through Friday, 8:00 a.m. to 5:00 p.m. (CET, CEST), excluding national and local holidays applicable in Germany.

Siemens will handle the customer's support request at its own discretion by e-mail, telephone or, in consultation with the customer, by remote access. The customer must ensure remote access to the connected service items, e.g. for remote diagnostics.

Technical Support is available in English and German. Customer will reasonably cooperate with the Siemens support team to resolve support incidents. Support Services are provided on an "as is" basis. Siemens assumes no obligation or responsibility for such Support Services, including the completeness, accuracy and

timeliness of the Support Services provided or that Support Services will be provided within specified response times.

3.1.2 Delimitations

- The delivery of spare parts "Next Business Day" starts with the completion of the analysis by Siemens Technical Support and the identified spare part to be replaced.
- Siemens reserves the right to refer the customer to a self-repair for the fastest possible solution of hardware problems. For this purpose, Siemens shall provide the customer exclusively with the hardware components required for the repair.
- Longer delivery times for spare parts are reserved in exceptional cases, e.g. in the event of special regional circumstances.
- The provision of services in the case of on-site replacement of spare parts by third parties shall end after the defective hardware has been replaced and restored.
- Due to the complexity of the system and the interaction of the individual versions (firmware, drivers, software, ...), it may be necessary in rare cases for Siemens Technical Support to become involved in the recommissioning of the system following an on-site replacement of spare parts.
- Spare parts can only be requested via Siemens Technical Support. Exchanged spare parts cannot remain with the customer (except for data carriers with a corresponding exclusion clause, e.g. DMR or "Keep-Your-Drive").
- The term of service contracts can only be extended via an individual offer.

3.2 Service Agreement SIDS I Elements

With the purchase of "SIDS I", the following product groups are supported within the scope of the service contract included in the standard:

- SIDS I PH / IS
- SIDS I Backup and Restore
as well as
- SIDS I Peripherals

3.2.1 Services

The service contract includes the following services:

Technical Support

Our central technical support organization is supporting in terms of

- Clarification of general technical problems
- Clarification of questions regarding system operation
- Support in the search, analysis and elimination of problems
- Support in the selection and implementation of SW updates
- Coordination of support activities for components from third-party providers (HPE and Veeam)
- No limitation in the number of support requests to be processed

Support is limited to 2 h per support request. An additional time contingency can be ordered separately.

Supply of spare parts

In case of spare parts, the following services are available:

- Delivery of the required spare parts to the desired location (approx. 1-2 working days after a HW defect has been confirmed by Technical Support)
- On-site service for HPE spare parts, with which the repair can only be carried out by the appropriate specialist personnel according to the manufacturer's instructions (approx. 1-2 working days after a HW defect has been confirmed by Technical Support). Please note that firmware upgrades may have to be performed on your own responsibility.

Software-Updates and -Upgrades

Software and firmware updates for the hardware components as well as for the Veeam software can be requested via Siemens Technical Support and are an exclusive part of an active service contract.

These are tested at regular intervals, several times a year, by system experts for compatibility with SIDS I software applications and provided as a software bundle

customized to the project. In addition, the project receives an upgrade guide that leads through the essential steps of the update. If you have any queries, our Technical Support is always available as the first point of contact.

This includes the following components:

- Firmware for all hardware components such as Server, Switches, Thin Clients, Tape Drive/Auto-Loader, UPS
- Software updates for the backup software
- Windows updates based on a WSUS patch manifest file and additive access to a WSUS orchestrator service provided by Siemens
- Application updates for Siemens application software, such as Process Historian, Information Server, ...

•

To ensure compatibility between HPE, B&R and/or PH/IS the Technical Support is available with corresponding consulting services.

Information and safety instructions for mounting the supplied devices can be found in the manufacturer's product documentation:

HPE Support Center

[Support Center](#)

HPE DL380 Gen10 Server

List of available documents:

[HPE ProLiant DL380 Gen10 Server - Document List](#) (English)

User Manual:

[HPE ProLiant DL380 Gen10 Server User Guide](#) (English)

Tape Drive

List of available documents:

[Document - HPE StoreEver 1/8 G2 Tape Autoloader User and Service Guide | HPE Support](#) (English)

Contact and scope of technical support

The customer shall designate a contact person and a deputy contact person, each of whom is authorized to receive technical support services. The contact persons must have sufficient technical knowledge and expertise to provide the Siemens support team with information to reproduce and rectify the error that has occurred, such as the name of the customer or end customer, an error description including suitable screenshots to illustrate the incident. The Siemens support team is entitled to contact end customers directly if this is necessary to perform the technical support services.

Subject to availability, Siemens Technical Support provides technical support services to Customer ("Regular Support"). Regular Support is available around the clock exclusively via the web portal at: www.siemens.com/supportrequest. The request will be processed during regular support hours, Monday through Friday, 8:00 a.m. to 5:00 p.m. (CET, CEST), excluding national and local holidays applicable in Germany.

Siemens will handle the customer's support request at its own discretion by e-mail, telephone or, in consultation with the customer, by remote access. The customer must ensure remote access to the connected service items, e.g. for remote diagnostics.

Technical Support is available in English and German. Customer will reasonably cooperate with the Siemens support team to resolve support incidents. Support Services are provided on an "as is" basis. Siemens assumes no obligation or responsibility for such Support Services, including the completeness, accuracy and timeliness of the Support Services provided or that Support Services will be provided within specified response times.

3.2.2 Delimitations

- The delivery of spare parts "Next Business Day" starts with the completion of the analysis by Siemens Technical Support and the identified spare part to be replaced.
- Siemens reserves the right to refer the customer to a self-repair for the fastest possible solution of hardware problems. For this purpose, Siemens shall provide the customer exclusively with the hardware components required for the repair.
- Longer delivery times for spare parts are reserved in exceptional cases, e.g. in the event of special regional circumstances.
- The provision of services in the case of on-site replacement of spare parts by third parties shall end after the defective hardware has been replaced and restored.
- Due to the complexity of the system and the interaction of the individual versions (firmware, drivers, software, ...), it may be necessary in rare cases for Siemens Technical Support to become involved in the recommissioning of the system following an on-site replacement of spare parts.
- Spare parts can only be requested via Siemens Technical Support. Exchanged spare parts cannot remain with the customer (except for data carriers with a corresponding exclusion clause, e.g. DMR or "Keep-Your-Drive").
- The term of service contracts can only be extended via an individual offer.

3.3 Service Agreement for IDMZ Elements

The following products are supported under the service agreement:

- IDMZ VM: Data Exchange Server (DES)
- IDMZ VM: Domain Controller (DC)
- IDMZ VM: Domain Name System (DNS)
- IDMZ VM: Endpoint Protection (EPP) ready
- IDMZ VM: Information Server (IS)
- IDMZ VM: Jump Host (JH)
- IDMZ VM: Management (MGMT)
- IDMZ VM: Network Monitor Server (PRTG) ready
- IDMZ VM: Update Service (WSUS) ready
- Hardware components (Server, Firewalls, Network switches, ...)
- Virtualization software (VMware - vSphere ESXi, vSphere Web Client)

3.3.1 Services

The service agreement includes the following services:

Technical Support

Our central technical support organization is supporting in terms of

- Clarification of general technical problems
- Clarification of questions regarding system operation
- Support in the search, analysis and elimination of problems
- Support in the selection and implementation of SW updates
- Coordination of support activities for components from third-party providers (HPE and Veeam)
- No limitation in the number of support requests to be processed

Support is offered by phone or email. Support is limited to 2 h per support request. An additional time contingency can be ordered separately.

Supply of spare parts

In case of spare parts, the following services are available:

- Delivery of the required spare parts to the desired location (approx. 1-2 working days after a HW defect has been confirmed by Technical Support)
- On-site service for HPE / DELL spare parts, with which the repair can only be carried out by the appropriate specialist personnel according to the manufacturer's instructions (approx. 1-2 working days after a HW defect has been confirmed by Technical Support). Please note that firmware upgrades may have to be performed on your own responsibility.

Software-Updates and -Upgrades

Software and firmware updates for the hardware components as well as for the VMware software can be requested via Siemens Technical Support and are an exclusive part of an active service contract.

These are tested at regular intervals, several times a year, by system experts for compatibility with IDMZ, VMware and other software applications and provided as a software bundle customized to the project. In addition, the project receives an upgrade guide that leads through the essential steps of the update. If you have any queries, our Technical Support is always available as the first point of contact.

This includes the following components:

- Firmware for all hardware components such as virtualization hosts (HPE), firewalls...
- Software updates for VMware virtualization software (vCenter, vSphere ESXi).
- Windows updates based on a WSUS patch manifest file and additive access to a WSUS orchestrator service provided by Siemens.

Information and safety instructions for mounting the supplied devices can be found in the manufacturer's product documentation:

HPE Support Center

[Support Center](#)

HPE DL380 Gen10 Server

List of available documents

[HPE ProLiant DL380 Gen10 Server - Document List](#) (English)

User Manual:

[HPE ProLiant DL380 Gen10 Server User Guide](#) (English)

Contact and scope of technical support

The customer shall designate a contact person and a deputy contact person, each of whom is authorized to receive technical support services. The contact persons must have sufficient technical knowledge and expertise to provide the Siemens support team with information to reproduce and rectify the error that has occurred, such as the name of the customer or end customer, an error description including suitable screenshots to illustrate the incident. The Siemens support team is entitled to contact end customers directly if this is necessary to perform the technical support services.

Subject to availability, Siemens Technical Support provides technical support services to Customer ("Regular Support"). Regular Support is available around the clock exclusively via the web portal at: www.siemens.com/supportrequest. The request will be processed during regular support hours, Monday through Friday, 8:00 a.m. to 5:00 p.m. (CET, CEST), excluding national and local holidays applicable in Germany.

Siemens will handle the customer's support request at its own discretion by e-mail, telephone or, in consultation with the customer, by remote access. The customer must ensure remote access to the connected service items, e.g. for remote diagnostics.

Technical Support is available in English and German. Customer will reasonably cooperate with the Siemens support team to resolve support incidents. Support Services are provided on an "as is" basis. Siemens assumes no obligation or responsibility for such Support Services, including the completeness, accuracy and timeliness of the Support Services provided or that Support Services will be provided within specified response times.

3.3.2 Delimitations

- The delivery of spare parts "Next Business Day" starts with the completion of the analysis by Siemens Technical Support and the identified spare part to be replaced.
- Siemens reserves the right to refer the customer to a self-repair for the fastest possible solution of hardware problems. For this purpose, Siemens shall provide the customer exclusively with the hardware components required for the repair.
- Longer delivery times for spare parts are reserved in exceptional cases, e.g. in the event of special regional circumstances.
- The provision of services in the case of on-site replacement of spare parts by third parties shall end after the defective hardware has been replaced and restored.
- Due to the complexity of the system and the interaction of the individual versions (firmware, drivers, software, ...), it may be necessary in rare cases for Siemens Technical Support to become involved in the recommissioning of the system following an on-site replacement of spare parts.
- Spare parts can only be requested via Siemens Technical Support. Exchanged spare parts cannot remain with the customer (except for data carriers with a corresponding exclusion clause, e.g. DMR or "Keep-Your-Drive").
- The term of service contracts can only be extended via an individual offer.

3.4 General information

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:

support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers – ranging from basic support to individual support contracts.

Please send queries to Technical Support via Web form:

siemens.com/SupportRequest

SITRAIN – Digital Industry Academy

We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:

siemens.com/sitrain

Service offer

Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:

support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for iOS and Android:

support.industry.siemens.com/cs/ww/en/sc/2067

3.5 Industry Mall



The Siemens Industry Mall is the platform on which the entire Siemens Industry product portfolio is accessible. From the selection of products to the order and the delivery tracking, the Industry Mall enables the complete purchasing processing – directly and independently of time and location:

mall.industry.siemens.com

4 Legal Conditions

Which conditions apply to the individual service components?

1. For customers with seat or registered office within the European Union:

- (i) The “Supplementary Terms and Conditions for Services for Infrastructure & Industry Business (German Law) (“BL”) apply to service components.
- (ii) The “General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry” apply to hardware components.
- (iii) For software products that are part of the offer, the “General Terms and Conditions for Software Products for the Infrastructure & Industry Business (German Law)” as well as the “Special Terms and Conditions for Third-Party Software Components” apply.

2. For customers based outside the European Union

- (i) The “International Terms & Conditions for Services” apply to service components, supplemented by the “Software Licensing Conditions” and the “Special Terms and Conditions for Third-Party Software Components”.
- (ii) The “International Terms & Conditions for Products” apply to hardware components, supplemented by the “Software Licensing Conditions” and the “Special Terms and Conditions for Third-Party Software Components”.

Where can I find the conditions?

- Special Terms and Conditions for Third-Party Software Components: see the following page;
- All other conditions mentioned in sections 1 and 2 above: <https://mall.industry.siemens.com/legal/de-en/index.htm>

What else should I consider?

- The terms and conditions set forth in sections 1 and 2 do not apply to the virtualized applications (e.g., PCS 7, PCS neo), which the customer must purchase separately in accordance with the terms and conditions applicable to these products.
- Except for the Special Terms and Conditions for Third-Party Software Components, the terms and conditions set forth in sections 1 and 2 shall apply exclusively to orders placed with Siemens Aktiengesellschaft, Germany. For orders via Siemens entities/regional companies with registered offices outside Germany, the respective terms and conditions of sale and delivery of the respective Siemens entity/regional company with registered offices outside Germany shall apply exclusively.

Special conditions for third-party software components

SIMATIC Virtualization as a Service contains third-party software components ("Third-Party Technologies"), i.e., software that was not developed by Siemens itself and is not open source software, but which Siemens licenses from third parties, so-called Commercial Software. The use of Commercial Software is subject to the additional terms and conditions set forth below:

VMware-Software (vSphere Standard and vSphere Client)

1. The customer shall have the non-exclusive right to use the pre-installed VMware software with the agreed performance features in unchanged form exclusively on the agreed devices.
2. The customer may not modify, reverse engineer or translate the software and may not extract any parts thereof unless this is mandatory under the provisions of the Copyright Act. Insofar as this is compulsorily permitted under the provisions of the Copyright Act, the Customer shall inform Siemens 45 days in advance of the planned use.
3. The customer shall be entitled to transfer the granted right of use together with the devices on which the VMware Software is installed to a third party, provided that it enters into a written agreement with that third party that complies with all provisions of this section 2 and provided that customer does not retain any copies of the software.
4. If customer has received a license key for the VMware software, such license key shall be provided to the third party together with the software. Furthermore, these terms of use shall be handed over to the third party.
5. U.S. Federal Government Use: VMware Software delivered to U.S. Government end users is "commercial computer software" as defined in the applicable Federal Acquisition Regulation ("FAR") or Defense Federal Acquisition Regulations Supplement ("DFARS") and any agency-specific supplemental regulations.

Microsoft (Windows Server 2012 R2 64 Bit / 2016 64 Bit / 2019 64 Bit / 2022 64 Bit)

The customer receives from Microsoft terms and conditions with the software in the Readme_OSS file. These shall apply with regard to Microsoft's liability towards the customer. Siemens' liability to customer shall in any event be governed by the Agreement.

System integrators may not:

- modify the MS operating system.
- archive custom images (SI custom images may be created only in connection with System Design Order from authorized licensees, and only in quantities equal to the number of licensed customer systems).
- offer MS software as a download to authorized licenses.
- promote MS, offer different pricing, or otherwise distribute the MS product separately from the associated customer system.

5 List of abbreviations

Table 5-1

| Abbreviation | Meaning |
|--------------|--|
| CPU | Central Processing Unit |
| HDD | Hard Disc Drive |
| HU | Height unit |
| HPE | Hewlett Packard Enterprise |
| IADC | Industrial Automation DataCenter |
| IDMZ | Industrial Demilitarized Zone |
| IEC | International Electrotechnical Commission) |
| IT | Information technology |
| OT | Operational Technology |
| QSFP | Quad Small Form Factor Pluggable |
| SAN - | Storage Area Network |
| SFP | Small Form-factor Pluggable |
| SIDSI | SIMATIC DCS / SCADA Infrastructure |
| SIVaaS | SIMATIC Virtualization as a Service |
| SSD | Solid State Drive |
| UPS | Uninterruptible power supply |
| VM | Virtual Machine |
| vSAN | Virtual Storage Area Network |