Online Help

EcoStruxure IT Data Center Expert Virtual Appliance

Version 9.1.X

Data Center Expert Virtual Appliance

The Data Center Expert server is available as a virtual appliance, supported on VMware ESXi 6.7 or newer, and, in DCE 8.1.1 and newer, supported on Hyper-V running on Windows Server 2019 and 2022.

The full-featured trial of the virtual appliance monitors up to five device nodes. You can purchase a subscription license to upgrade to a production version to monitor additional device nodes and activate supported applications, or to migrate from a server hardware version to a virtual appliance.

Starting with Data Center Expert 8.1, VMware ESXi 6.7 is used as the reference virtualization platform for the Data Center Expert virtual appliance; only E1000E and VMXNET3 network adapters are supported. VMware ESXi 4.1.0 was used as the reference virtualization platform in prior versions.

The Data Center Expert virtual appliance is delivered as an OVA (Open Virtualization Archive), expected to function properly on any virtualization platform that supports this format or has an appropriate converter utility. Only VMware ESXi and on-premises Hyper-V have been tested and are supported.

To use the full-featured trial version of the Data Center Expert virtual appliance, you download the *.ova or *.vhdx file from the APC web site, and deploy it to your virtualization platform using the default hardware configuration.

For more information, see Hardware resource configuration guidelines and Data Center Expert virtual appliance equivalent configurations .

The trial version monitors a maximum of five device nodes for 90 days. You must purchase a subscription license on the mySchneider Software Management website to upgrade to the production version to monitor additional device nodes or activate supported applications. You can transfer a subscription license one time only. Contact support for assistance if needed.
Note: You can add an additional network adapter to enable private networking, or add additional hard disks to increase storage, after the OVA template is deployed.

To migrate a Data Center Expert hardware server to a virtual appliance, you must purchase a subscription license on the mySchneider Software Management website and transfer the subscription license from the physical DCE server to the DCE virtual appliance.

Note: You can transfer a subscription license one time only. Contact support for assistance if needed.

A unique serial number is generated for the Data Center Expert virtual appliance at startup. It is displayed in the "About Data Center Expert" display, accessed from the **Help** menu.
Note: The serial number for a Data Center Expert hardware server appears only on its serial number sticker.

This section of the Data Center Expert Virtual Appliance help fully describes deploying the Data Center Expert virtual appliance, and the upgrade and migration processes. It is available as a separate printable document on the APC web site.

Deploying and configuring a Data Center Expert virtual appliance

The Data Center Expert virtual appliance trial version monitors up to five device nodes. You can upgrade to a production version after the trial is deployed.

Get started with VMware

1. Download the *.ova file from the APC web site.
2. In your virtualization platform client interface, choose to deploy an OVF template.
3. Browse to the location of the *.ova file, and load the OVA. This may take several minutes. Alternatively, you may have the option to specify the URL for the *.ova file in your virtualization environment client interface.
4. Follow the prompts to accept the end user license agreement, and respond to options required to configure the OVA. Select thin provisioned disk format to allocate storage space on demand. Select thick provisioned disk format to allocate all storage space immediately.

Note: Starting with Data Center Expert 8.1, VMware ESXi 6.7 is used as the reference virtualization platform for the Data Center Expert virtual appliance. Only E1000E and VMXNET3 network adapters are supported.

Get started with Hyper-V

1. Download the *.vhdx file from the APC website.
2. In your virtualization platform client interface, choose to create a new virtual machine.
3. Specify Generation 1 when prompted.
4. Choose **Use an existing virtual hard disk** and browse to load the *.vhdx.
5. Follow the prompts to finish the creation of the virtual appliance.

Note: RAM is configured as part of the VM deployment. You can add additional an additional network interface, RAM, CPUs, and hard drives after the setup is complete.

Configure the network settings

You must provide the MAC Address, IP Address, hostname, and network settings before using the Data Center Expert virtual appliance.

1. Select the virtual appliance you created, and select the option to edit the virtual machine settings.
2. Specify the MAC Address for the virtual appliance manually.

   A unique MAC Address is required for each Data Center Expert . If the MAC Address originally assigned to the virtual appliance is changed, an error will occur on the primary interface, and the virtual appliance will not start.
3. Power on the virtual appliance.
4. In the console view, login to the virtual appliance using `apcsetup` as the username and password.
5. Within five seconds, press `m` to modify the settings.
6. Follow the prompts to specify the IP Address, hostname, subnet mask, and DNS servers for the virtual appliance.
7. After the virtual appliance has restarted, type its IP Address or hostname into a browser to login to the Data Center Expert client.

How to add an additional network adapter

You can add one additional network adapter to enable private networking. You cannot remove a network adapter once it has been added.

1. Shut down the virtual appliance.
2. Select the virtual appliance, and select the option to edit the virtual machine settings.
3. Select the options to add an ethernet adapter.
4. Specify the type and the network connection.

   Ensure this connection is mapped correctly, particularly when the DHCP server will be enabled on the private network interface.
5. Power on the virtual appliance.
6. In the console view, login to the virtual appliance using `apcsetup` as the username and password.
7. Within five seconds, press `m` to modify the settings.
8. Accept the settings you configured previously, or modify settings if needed.
9. Press `y` to accept the **Enable private network interface** option.
10. Specify whether you want to enable the DHCP server on the private network interface.

Upgrading a Data Center Expert virtual appliance trial version to production

To upgrade from the trial to the Data Center Expert virtual appliance production version, and to monitor additional device nodes and activate supported applications, you must purchase a subscription license.

IMPORTANT: FIPS mode requires that certificates must include the Subject Alternative Name with the fully qualified domain name (FQDN) and IP address of the monitored device or connected server. New certificates may be required.

1. Purchase the subscription license for the virtual appliance on the mySchneider Software Management website.
2. Log in to the Data Center Expert client. Go to the **License** display, accessed from the **Server Administration Settings** option in the **System** menu.
3. Click **Update License** to upload the license response file from mySchneider Software Management to enable the DCE software with a new subscription license.
4. In your virtualization platform client, shut down the Data Center Expert virtual appliance.
5. Select the option to edit the Data Center Expert virtual appliance settings.
6. Modify the hardware, if necessary.

   See help for Deploying and configuring a Data Center Expert virtual server, and Data Center Expert virtual server equivalent configurations.
7. Power on the virtual appliance.

Migrating a Data Center Expert hardware server to a virtual appliance

To migrate a Data Center Expert hardware server to a virtual appliance, you must purchase a subscription license on the mySchneider Software Management website. Additionally, you must create a new DCE device on the mySchneider Software Management website. Visit the EcoStruxure IT Help Center for more information.

1. Perform a back up of the Data Center Expert hardware server, using the **Server Backup/Restore** option, accessed from the **Server Administration Settings** option in the **System** menu.
2. Deploy the trial version of the virtual appliance, and configure it using the hardware equivalents for the Data Center Expert Basic, Standard, or Enterprise server from

which you are migrating. **The available disk space for the virtual appliance must be greater than the disk space used by the hardware server.**

You cannot restore to a virtual appliance with fewer CPU, fewer network adapters, less RAM, or less available disk space than the hardware server.

See help for Deploying and configuring a Data Center Expert virtual appliance, and Data Center Expert virtual appliance equivalent configurations.

3. Perform a restore on the virtual appliance, using the **Server Backup/Restore** option, accessed from the **Server Administration Settings** option in the **System** menu.

   You cannot restore to a virtual machine other than the Data Center Expert virtual appliance.
4. Log in to the Data Center Expert client. In the **License** display, accessed from the **Server Administration Settings** option in the **System** menu, click **Update license** to upload the response file you received from mySchneider Software Management .

Adding disk space to a virtual appliance

To increase storage for the virtual appliance, you must create additional hard disks.

You cannot change the size of an existing hard disk, or remove a hard disk once it has been created. An error will occur on the primary interface, and the Data Center Expert virtual appliance will not start.

1. Gracefully shut down the virtual appliance.
2. In your virtual server console, select the option to add a hard disk.
3. Choose the hard disk size.

   See Data Center Expert virtual server equivalent configurations.
4. Choose thin or thick provisioning.
5. Power on the virtual appliance.

Changes in the disk space will take effect once the Data Center Expert virtual appliance has restarted. Do not shut down the virtual appliance while the disk reconfiguration process is running.

The "Storage Settings" display, accessed from the **Server Administration Settings** option in the **System** menu, shows the total storage space available for the virtual appliance, not the individual hard disks.

Note: To store large amounts of surveillance data, using a remote repository is recommended.

About changing hardware resource settings for the Data Center Expert virtual appliance

After you have deployed the OVA, you can make changes to the Data Center Expert virtual appliance settings from your virtualization platform client interface. You use `apcsetup` as the username and password.

Network settings: You can configure an additional network adapter to enable the private network (APC LAN) as the apcsetup user or through the Data Center Expert client.

MAC Address settings: A unique MAC address is required for each Data Center Expert virtual appliance. If the MAC address originally assigned to the primary or secondary

network interface is changed, an error will occur on the primary interface, and the virtual appliance will not start. A message will be displayed indicating the MAC address expected before normal startup will be allowed.

Hard disk settings: To increase storage for the virtual appliance, you can create additional hard disks. You cannot change the size of an existing hard disk, or remove a hard disk once it has been created. An error will occur on the primary interface, and the Data Center Expert virtual appliance will not start.

Changes in the disk space will take effect once the Data Center Expert virtual appliance has restarted.

The "Storage Settings" display, accessed from the **Server Administration Settings** option in the **System** menu, shows the total storage space available for the virtual appliance, not the individual hard disks.
Note: To store large amounts of surveillance data, using a remote repository is recommended.

RAM settings: You can add RAM to the Data Center Expert virtual appliance. You must gracefully shut down the virtual appliance to configure the settings.

CPU settings: You can add CPUs to the Data Center Expert virtual appliance. You must gracefully shut down the virtual appliance to configure the settings.
Note: VMware supports fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

Hardware resource configuration guidelines

Use the DCE sizing guide to determine the hardware resources necessary for a Data Center Expert virtual appliance to monitor a given number of device nodes.

Note: VMware supports fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

The disk space required to monitor a given number of nodes varies according to the device types monitored and the amount of data you want to store. The minimum hard disk size is 18 GB.

To determine whether to add another hard disk, you can view available disk space in the "Storage Settings" display, accessed from the **Server Administration Settings** option in the **System** menu. View this display periodically to help determine how quickly the virtual appliance consumes disk space.
Note: To store large amounts of surveillance data, using a remote repository is recommended.

Fault tolerant configuration guidelines

Use the DCE sizing guide to determine the hardware resources necessary for a Data Center Expert virtual appliance fault tolerant configuration.

VMware ESXi versions older than 6.7 support fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

Note: The actual number of device nodes supported varies according to the device types discovered.

Minimum and maximum Data Center Expert virtual appliance configurations

For information about supported configurations equivalent to Data Center Expert Basic, Standard, and Enterprise servers, see the DCE sizing guide .

Trial configuration (minimum)	Hardware resources
Up to 5 device nodes including cameras	40 GB disk space 4 GB RAM 4 CPU 1 network adapter Thin provisioning

Maximum supported configuration	Hardware resources
Up to 4275 SNMPv1/Modbus device nodes or up to 1000 SNMPv3 device nodes	1 TB disk space 16 GB RAM 16 CPU 2 network adapters Thin or thick provisioning

Note: The actual number of device nodes supported varies according to the device types discovered.
Note: VMware supports fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

Note: VMware ESXi versions older than 6.7 support fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

Data Center Expert server equivalent configurations

The Data Center Expert virtual appliance equivalent configurations are based on Data Center Expert Basic, Standard, and Enterprise server hardware configurations.

For information about supported configurations equivalent to Data Center Expert Basic, Standard, and Enterprise servers, see the DCE sizing guide .

Note: The actual number of device nodes supported varies according to the device types discovered.
Note: VMware ESXi versions older than 6.7 support fault tolerance on virtual machines with 1 CPU only. Please refer to your vendor's documentation for more information about fault tolerance.

Hardware Server	Virtual Appliance Equivalent SNMPv1 and Modbus	Virtual Appliance Equivalent SNMPv3
Data Center Expert Basic	Up to 540 device nodes supported 4 GB RAM 4 CPU	Up to 125 device nodes supported 4 GB RAM 4 CPU
Data Center Expert Standard	Up to 2150 device nodes supported 8 GB RAM 8 CPU	Up to 500 device nodes supported 8 GB RAM 8 CPU
Data Center Expert Enterprise	Up to 4275 device nodes supported 16 GB RAM 16 CPU	Up to 1000 device nodes supported 16 GB RAM 16 CPU