

# Acronis

## Acronis Cyber Infrastructure 3.5

### Appliance Quick Start Guide

March 30, 2020

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## Acronis patented technologies

Technologies, used in this product, are covered and protected by one or more U.S. Patent Numbers: 7,047,380; 7,246,211; 7,275,139; 7,281,104; 7,318,135; 7,353,355; 7,366,859; 7,383,327; 7,475,282; 7,603,533; 7,636,824; 7,650,473; 7,721,138; 7,779,221; 7,831,789; 7,836,053; 7,886,120; 7,895,403; 7,934,064; 7,937,612; 7,941,510; 7,949,635; 7,953,948; 7,979,690; 8,005,797; 8,051,044; 8,069,320; 8,073,815; 8,074,035; 8,074,276; 8,145,607; 8,180,984; 8,225,133; 8,261,035; 8,296,264; 8,312,259; 8,347,137; 8,484,427; 8,645,748; 8,732,121; 8,850,060; 8,856,927; 8,996,830; 9,213,697; 9,400,886; 9,424,678; 9,436,558; 9,471,441; 9,501,234; and patent pending applications.

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## CHAPTER 1

# About the Appliance

The appliance comprises five nodes in a 19-inch 3U rackmount server chassis. The appliance deploys into a universal and easy-to-use software-defined infrastructure solution that combines virtualization and storage. It allows you to create and manage virtual machines and offers object, block, and file storage, including a local repository for cloud backups.

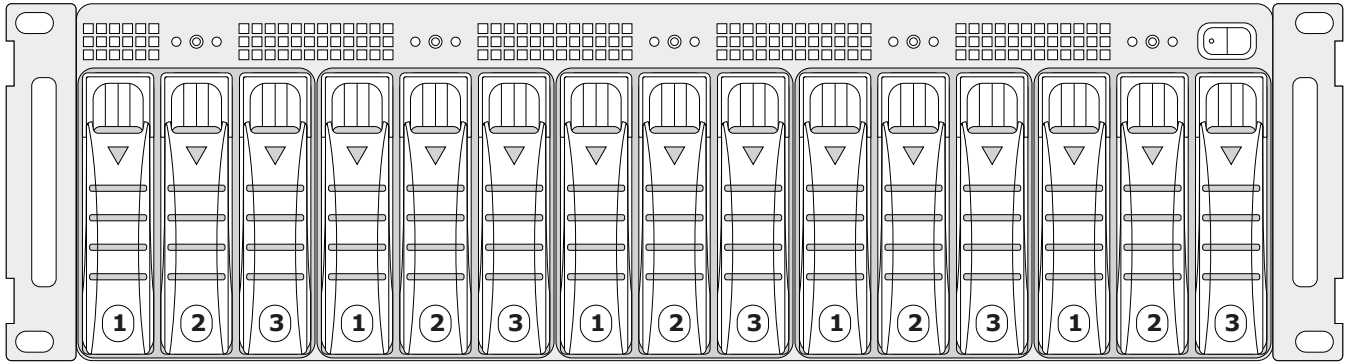
The appliance comes in several models that vary by storage capacity:

Model	Raw storage, TB	Usable storage*, TB	
		Capacity	Performance
SDI-5060	60	31	18
SDI-5120	120	62	36
SDI-5150	150	77	45
SDI-5180	180	93	54

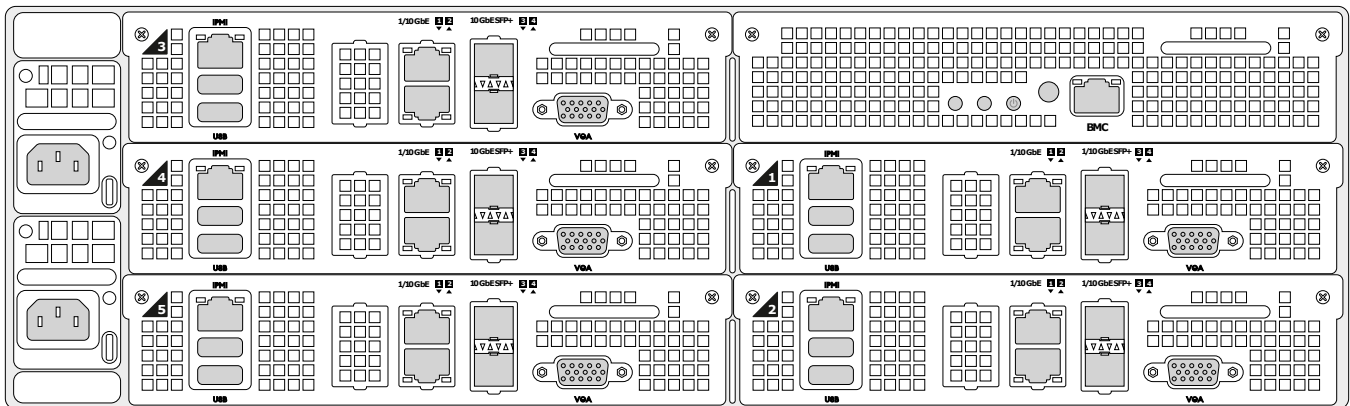
\* With the recommended redundancy scheme. Erasure coding 3+2 is recommended for capacity; replication=3 is recommended for performance.

## 1.1 Appliance Exterior

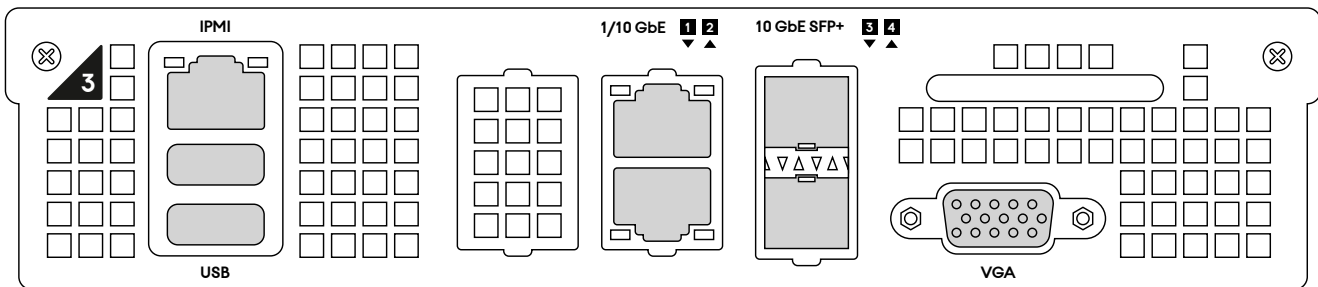
The appliance consists of five identical nodes. On the front of the appliance, under the front bezel are the power/reset buttons, a power LED of each node as well as the main power switch. The front panel also provides access to disks of each node: three per node, ordered left to right, i.e. the leftmost three disks are of node #1, the next three are of node #2, etc.



On the back of the appliance are two power sockets and a number of connectivity options.



Each node has its own network, IPMI, USB, and VGA ports.



The IPMI, USB, and VGA ports are only needed for advanced diagnostics. IPMI allows accessing the nodes over the network for out-of-band management via a remote console. The default IPMI password to access the management node via SSH is `Acronis!Infra%30` (it changes to a user-specified password during deployment). The USB and VGA ports allow you to connect a keyboard and a monitor to a node if the network is unavailable.

Day-to-day management of the appliance is done over the network through the admin panel, as described later in the guide.

## CHAPTER 2

# Safety Instructions

**Warning:** The appliance may only be repaired by a certified service technician. You may only perform troubleshooting as authorized by the support team. Damage due to unauthorized repairs is not covered by the warranty.

## CHAPTER 3

# Installing the Appliance

Before installing the appliance, make sure you have the following:

- 3U of server rack space in a standard 19-inch cabinet
- at least five free 1/10 GbE ports in a network switch (10 GbE recommended)
- at least five RJ45-to-RJ45 patch cables to connect the appliance to the switch
- two power sockets

If you want to set up network bonding, you will additionally need (a) five free 1/10 GbE ports in a network switch (10 GbE recommended) and (b) five RJ45-to-RJ45 patch cables to connect the appliance to the switch.

If you want to have access to the nodes from a remote console for out-of-band management, you will additionally need (a) six free 1 GbE ports in a network switch and (b) six RJ45-to-RJ45 patch cables to connect the appliance to the switch.

To install the appliance, perform the following steps:

1. Unpack the appliance.
2. Mount the appliance into rack.
3. Connect cables to the appliance.
4. Configure the appliance using the wizard.
5. Log in to the admin panel and install a license.
6. Enable high availability.
7. Set up the desired workloads in the admin panel.

Steps one through six are described in the following sections. For more information about step seven, refer

to the *Administrator's Guide*.

## 3.1 Unpacking the Appliance

Inspect the packaging contents for damage before mounting the appliance and connecting power.

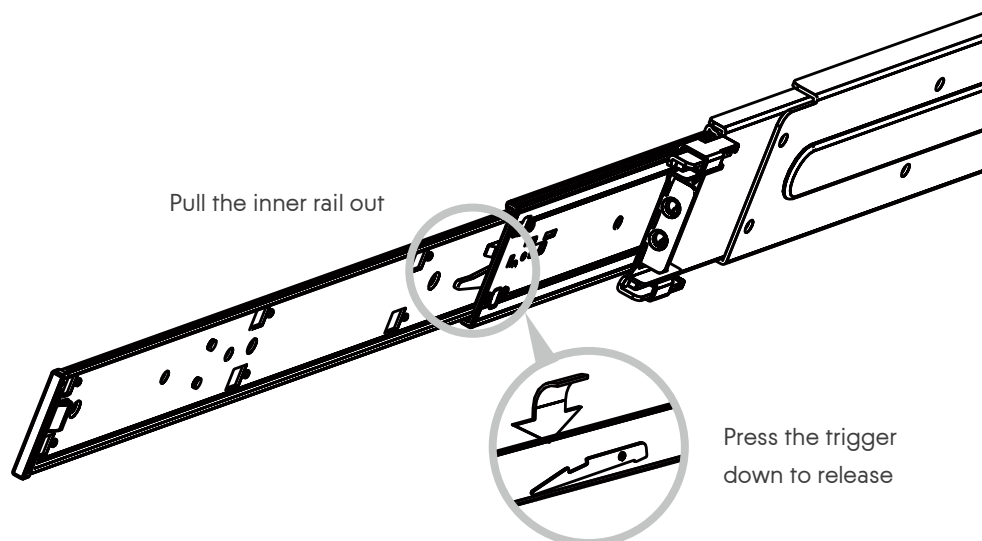
Before continuing, make sure the following items are present in the packaging: the appliance chassis, mounting rails, two power cables, this quick start guide.

## 3.2 Mounting the Appliance into Rack

The appliance comes with a set of server rails. Follow the steps further to install the rail and mount the appliance into the rack.

1. Separate inner and outer rails.

Separate the inner rail from the outer rail by sliding the inner rail forward until the locking tab is visible, as per the illustration below. Depress the tab and separate the inner rail from the outer rail by sliding the two apart.

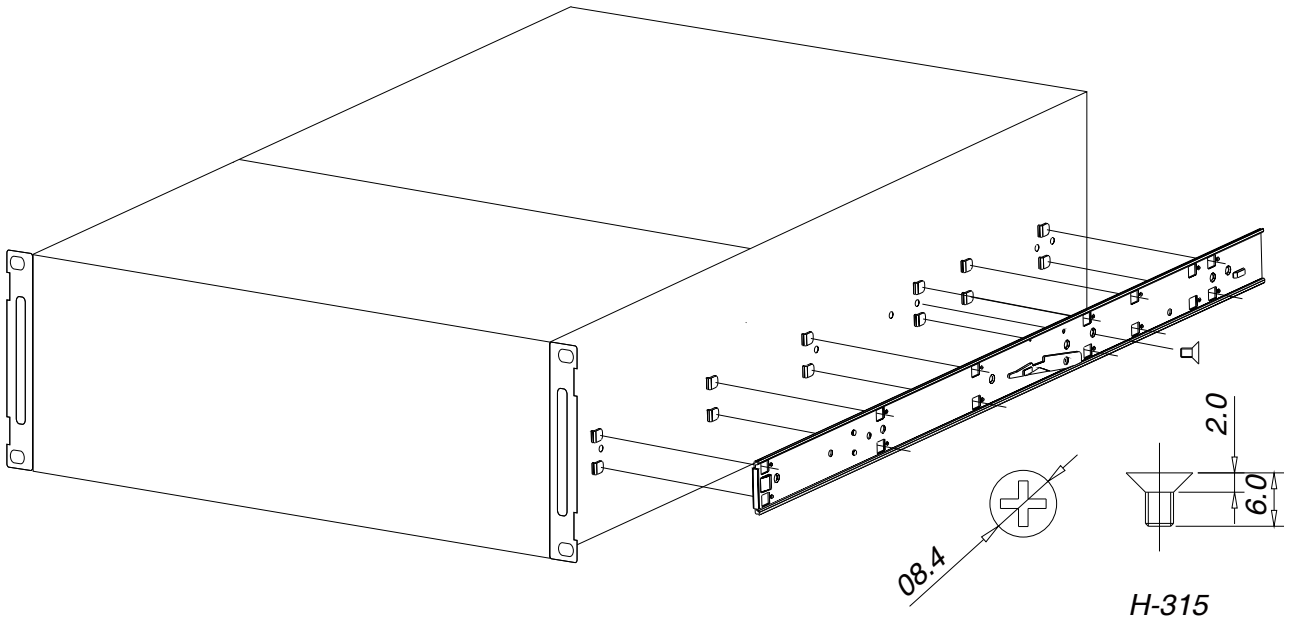


2. Attach the inner rail to the appliance.

Align the rectangular cutouts on the inner rail to the pre-formed bayonets on the side of chassis. Secure



the inner rail with a screw from the standard screw kit after all the bayonets go through the cutouts and properly engage.

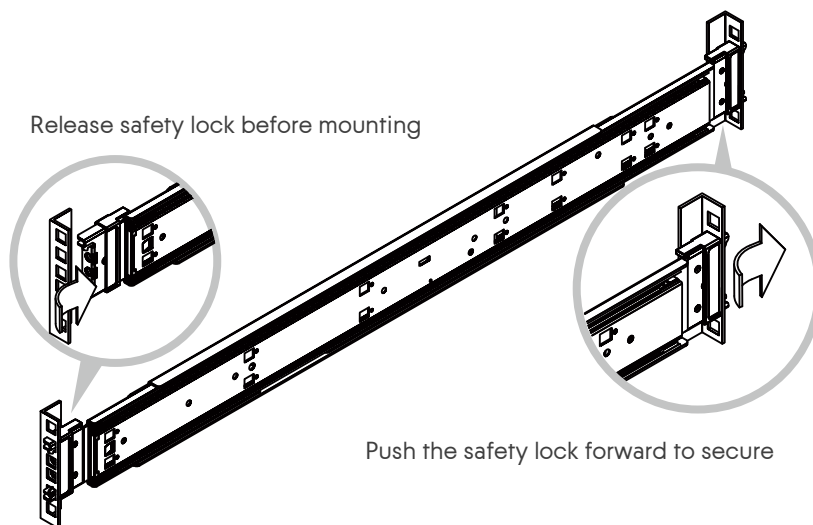


3. Install the outer rail into the rack.

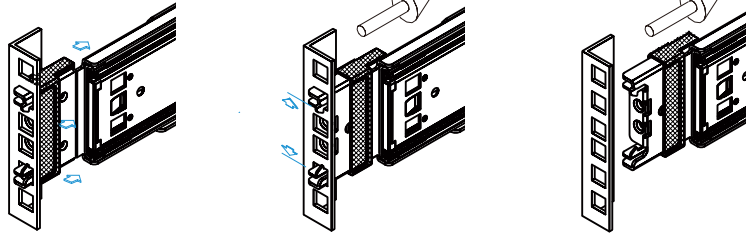
When selecting the location, note that the rails are in the middle of the appliance. Make sure that you install the outer rails with 1U clearance above and below.

Make sure that the safety lock is unlocked before mounting the brackets.

Insert the locating pins into the upper and lower square holes on the rail from the back of rail. Push the safety lock forward to secure the bracket.



Uninstall the bracket



4. Mount the chassis into the cabinet.

---

**Important:** Two people are required to perform this step.

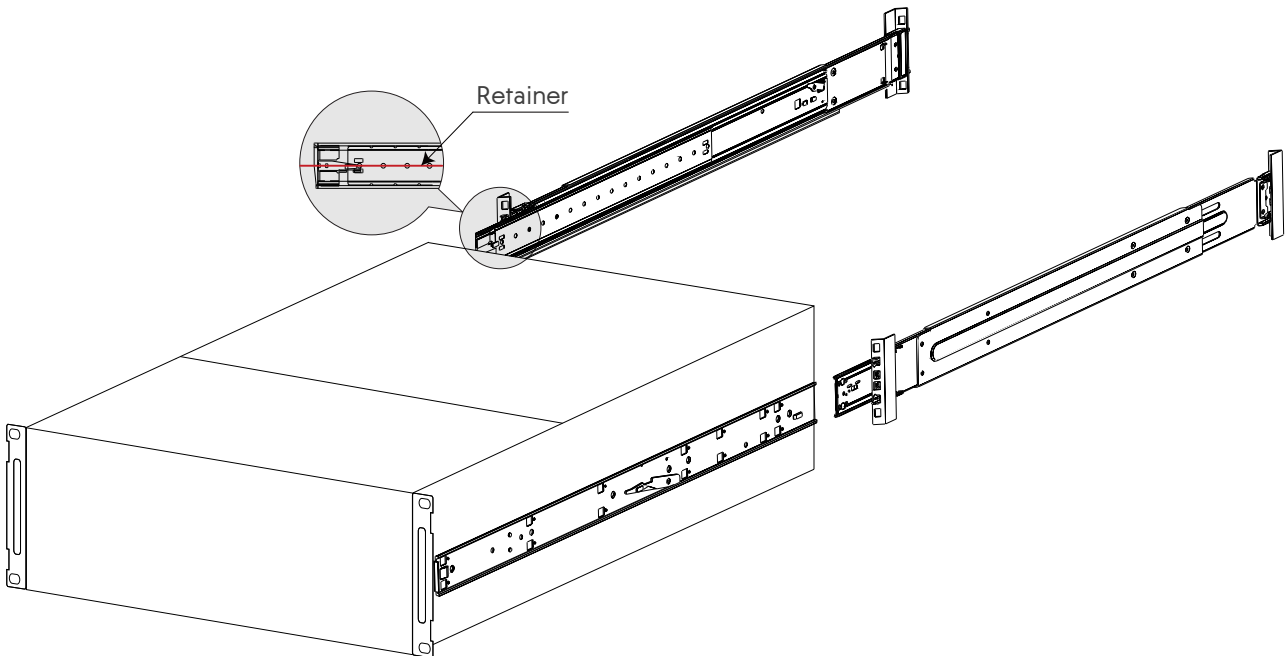
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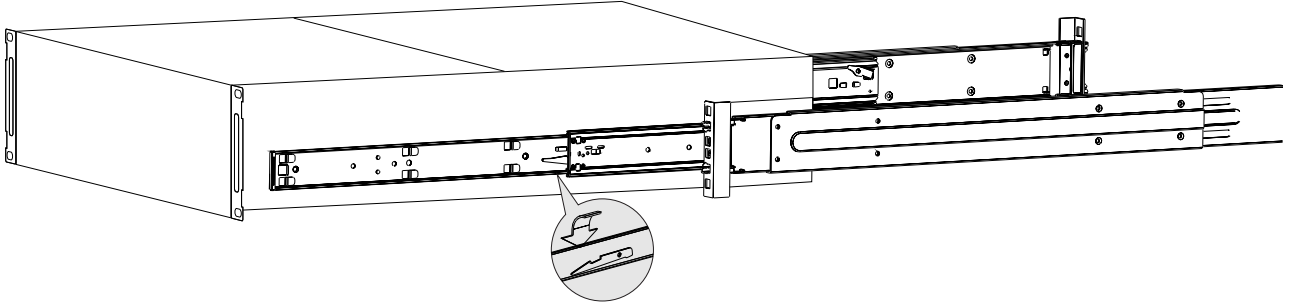
Insert the inner rail into the outer rail as shown on the figure.

---

**Important:** Make sure that the ball retainer is fully open before installing the chassis. Otherwise, you risk damaging the chassis!

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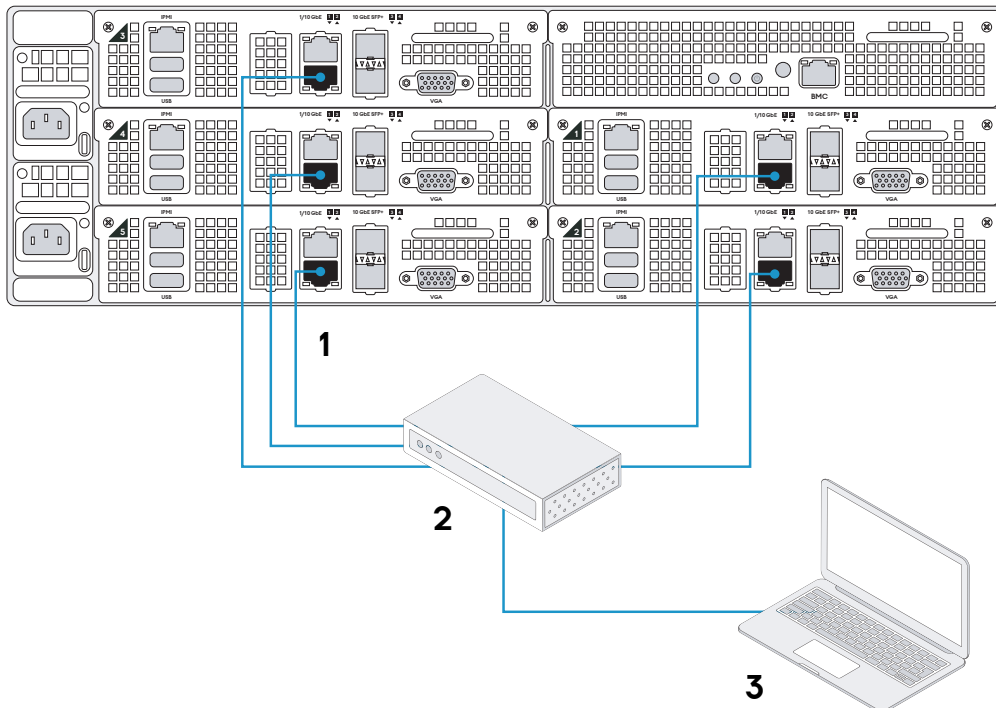


## 3.3 Connecting Cables to the Appliance

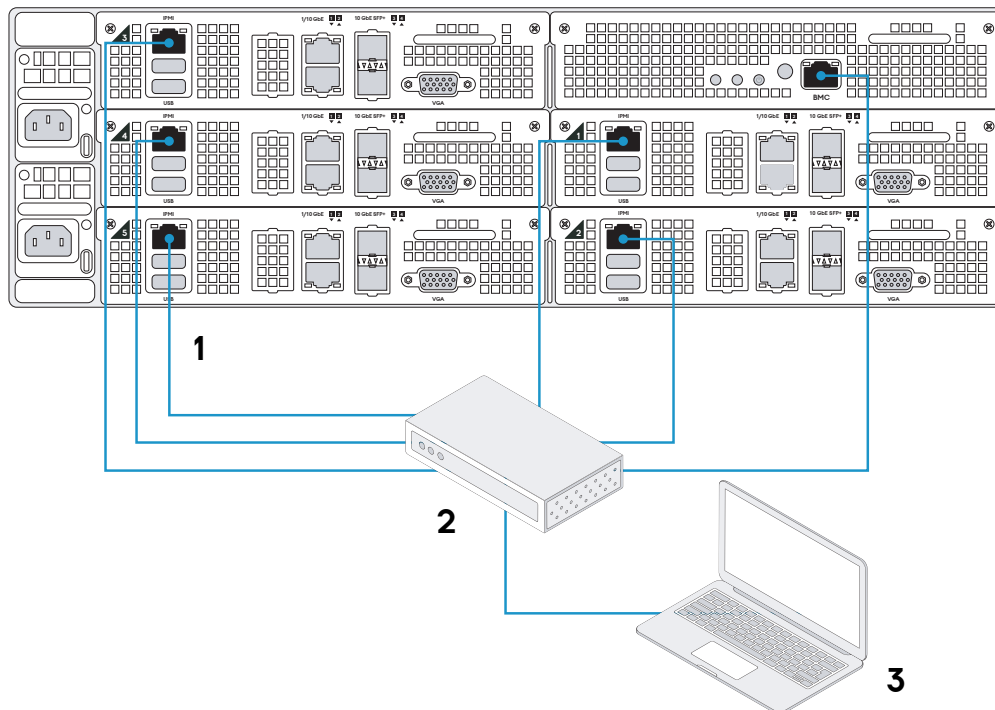
**Note:** For more details on configuring the network infrastructure, see the complete *Installation Guide*.

To prepare the appliance for configuration, do the following:

1. Connect the appliance to the electrical outlets using the supplied power cables.
2. Connect network interfaces #1 of all nodes (**1** on the diagram) to a switch (**2** on the diagram) with access to a dedicated subnet for your software-defined infrastructure. The nodes have preconfigured IP addresses: 10.20.20.11 to 10.20.20.15. Connect the admin laptop (**3** on the diagram) to the same switch.



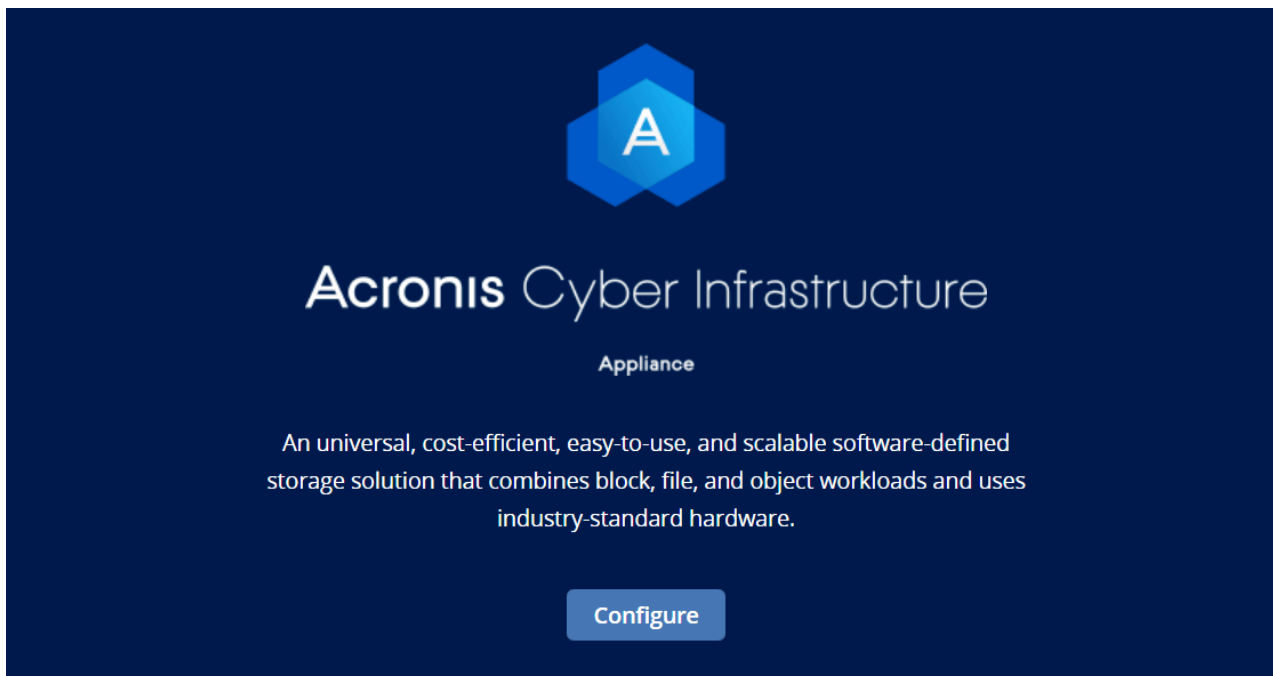
- (Optional) Connect the out-of-band management network interfaces of each node and the chassis (1 on the diagram) to a switch with access to the IPMI subnet for your appliance (2 on the diagram). The nodes have preconfigured IPMI IP addresses: 10.20.30.11 to 10.20.30.15. The chassis has the preconfigured IPMI IP address 10.20.30.10. Connect the admin laptop (3 on the diagram) to the same switch.



## 3.4 Configuring the Appliance

Perform the following steps to configure the appliance:

- Turn on the power: (a) press and hold down the main switch for five seconds, (b) press the power buttons of each node.
- Connect an admin laptop (from which you will configure the appliance) to the network. Assign a static IP address to it from the same subnet that nodes are in, e.g., 10.20.20.100. As mentioned before, the nodes have preconfigured IP addresses: 10.20.20.11 to 10.20.20.15.
- On this computer, open a web browser and visit the default primary node IP address 10.20.20.11. The wizard has been tested to work in the latest Firefox, Chrome, and Safari web browsers.
- Once the configuration wizard is displayed, click **Configure**.



5. Review and accept the license agreement then click **Next**.

## Configure appliance

### Software license agreement

Read the user agreement, if you agree with the terms of the agreement, confirm it

future updates to the Acronis Privacy Statement and the Acronis Licensing Policy, each of which may be updated from time to time (see <http://www.acronis.com/Legal.htm>), constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes and replaces all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter. You may not assign or transfer any of your rights or obligations under this Agreement to a third party without the prior written consent of Acronis. Acronis may freely assign this Agreement. Any attempted assignment or transfer in violation of the foregoing will be void.

### 12 CONTACTING ACRONIS

Users with questions about this Agreement or the Privacy Statement may contact Acronis at: [www.acronis.com/support](http://www.acronis.com/support).

### 13 CHANGES TO THIS AGREEMENT

Acronis may amend this Agreement including any referenced policies and other documents from time to time. If we make material changes to this Agreement, we will notify You by posting the change on our website or sending You an e-mail at your primary email address. Any changes to this Agreement will be effective immediately for new end users; otherwise for existing end users, the changes will be effective upon the earlier of thirty (30) calendar days following e-mail notice to You or thirty (30) calendar days following our posting of the notice on our website.

I accept the End-User License Agreement

Next

6. On the next step, enter the following:

- New host names for all nodes (or leave the default names). You can rename the nodes to fit your organization's naming policies or make them relevant to your organization.
- New static IP addresses for network interfaces 1 on all nodes. If you leave the fields empty, the default addresses 10.20.20.11 to 10.20.20.15 will be used.
- Virtual IP address at which you will access the highly available admin panel. You can read more about high availability in the *Administrator's Guide*.
- Network mask. Consult your network administrator for the proper network/subnet mask.
- At least one local DNS server.
- Gateway. Consult your network administrator for the proper gateway address.
- Domain name (optional). If this system will be visible from the Internet or if you wish to bind it to your organization's domain, provide the domain prefix and suffix.
- Time zone and time. Since nodes communicate with each other, they must be on the same time zone and have the same time in order to ensure proper synchronization. Click **Change time settings** to set the correct time zone and time.

---

**Important:** Entered values cannot be changed later.

---

## Configure appliance

**Configure network parameters**

Enter new IP addresses for the currently connected network interface 1 on each node and provide other details, including the network mask, DNS servers, gateway, domain name, timezone, and time.

<input type="radio"/> node1 <b>Primary</b>	<input type="text" value="10.20.20.11"/>	<input type="radio"/> node4	<input type="text" value="10.20.20.14"/>
<input type="radio"/> node2	<input type="text" value="10.20.20.12"/>	<input type="radio"/> node5	<input type="text" value="10.20.20.15"/>
<input type="radio"/> node3	<input type="text" value="10.20.20.13"/>	Virtual IP address for HA management	<input type="text" value="10.20.20.100"/>

Network mask	Gateway	DNS server	2nd DNS server (optional)
<input type="text" value="255.255.255.0"/>	<input type="text" value="10.20.20.1"/>	<input type="text" value="8.8.8.8"/>	<input type="text" value="8.8.4.4"/>

2:08 PM, W. Europe Standard Time — UTC+01:00 [Change time settings](#)

If one or more nodes are not reachable from the primary node, they will be marked as offline. In this case, make sure the nodes are powered on and connected to the correct network. Deployment will be blocked until all nodes are green (accessible and configurable by the primary node).

---

**Note:** You will be able to configure bonds and VLANs later in the admin panel.

---

Click **Next**.

7. On the next step, enter the cluster name (you cannot change it later) and cluster administrator password.

## Configure appliance

**Specify cluster name and password**  
Set up access to the appliance. Note that the cluster name cannot be changed later.

Cluster name

---

Administrator password

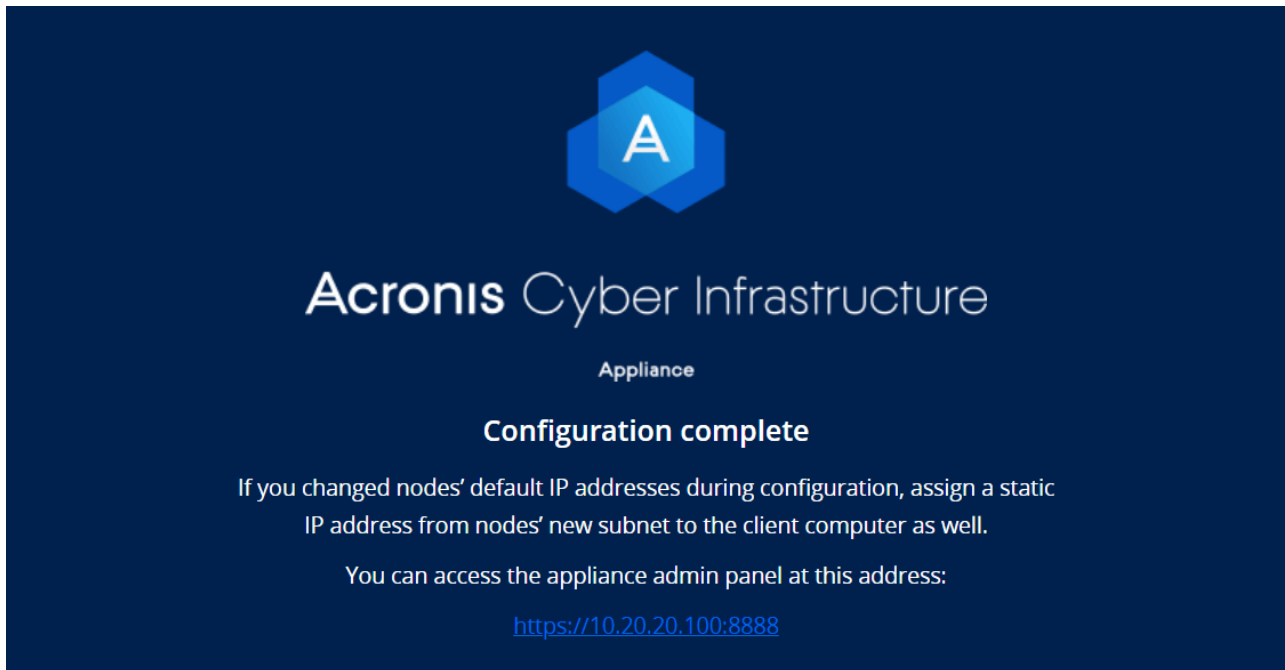
Confirm password

[Back](#) [Submit](#)

Click **Submit**. Configuration will begin, as indicated on the progress bar.

8. Wait until the progress bar reaches the end and change the IP address of the admin laptop to a free one from which you can access the appliance.
9. Once configuration is completed, you will see a link to the cluster admin panel. Log in with the username `admin` and the specified password. The admin panel has been tested to work at resolutions 1280x720 and higher in the latest Firefox, Chrome, and Safari web browsers.





10. Proceed to **SETTINGS > Licenses** and upgrade the default trial license either by a key or SPLA (for more details, see *Managing Licenses* (page 18)). If you do not have a license, contact your sales representative.
11. If you need to make additional changes to network configuration, e.g., create bonds and VLANs, connect cables to the network interface 2 and SFP slots and follow the instructions in the *Administrator's Guide*.

After deployment, update the product to the latest version (see *Managing Updates* (page 15)). Finally, configure the cluster for the desired workload as described in the *Administrator's Guide*.

## CHAPTER 4

# Managing Updates

Acronis Cyber Infrastructure supports non-disruptive rolling updates. Cluster nodes are updated one by one, with the data availability unaffected. During the update, the node enters maintenance mode and its workloads and VMs are migrated to other nodes. After the update, the node returns to operation. For more information on the maintenance mode, see the *Administrator's Guide*.

Take note of the following before you start updating nodes:

- To check for and download updates, the cluster must be healthy and each node in the infrastructure must be able to open outgoing Internet connections. This means, in particular, that cluster DNS must be configured and point to a DNS able to resolve external host names. For more details, see the *Administrator's Guide*.
- Unassigned nodes cannot be updated.
- Updates are applied to one storage cluster node at a time.
- If you enable any third-party repositories like EPEL, make sure that packages from the official repository, `hci.repo`, are never overwritten by packages from the third-party repositories. Disable such repositories when you do not need them anymore. Otherwise, product stability may be at risk.

To update the storage cluster from the admin panel, do the following:

1. Open the **SETTINGS > Updates** screen. The date of the last check is displayed in the upper right corner. Click the round arrow to check for new updates. If updates are available for a node, that node's update status changes to **Available**.

The screenshot shows a window titled "Updates" with a user profile icon in the top right. Below the title bar, there is a status bar that says "Updates are available" with an information icon, a "Details" link, and a blue "Download" button. Below this is a table with columns for "Name", "Current version", and "Update status". The table is expanded to show "Cluster nodes (3)".

Name ↓	Current version	Update status ↓
Cluster nodes (3)		
man-aci5-1.vsto	3.5.0 (727)	Available
man-aci5-2.vsto	3.5.0 (727)	Available
man-aci5-3.vsto	3.5.0 (727)	Available

2. Click **Download** in the upper right corner to get the updates. When the updates are downloaded to a node, its update status changes to **Ready to install**. After the updates have been downloaded for all of the nodes, the button will change to **Install**. Click it to continue.
3. In the **Install updates** window, choose how to proceed if a node needs to be rebooted but cannot enter maintenance mode. To avoid downtime, nodes that need to be rebooted are placed in maintenance mode one by one during the update. Nodes that cannot enter maintenance mode are skipped and not updated by default. By selecting the checkbox, you can instead stop the update if some of the nodes cannot enter maintenance mode. Nodes that have already been updated will remain so.

Click **Install**.

The screenshot shows a dialog box titled "Install updates" with a close button (X) in the top right. The main content area has a green checkmark and the text "Updates are ready to install" followed by "All nodes are eligible for updating." Below this is a checkbox labeled "Abort the update if a node cannot enter maintenance" with an information icon. At the bottom, there are two buttons: "Cancel" and "Install".

While the updates are being installed, you can pause or cancel the process.

4. If you have chosen to abort the update if some of the nodes cannot enter maintenance and it happens, a window will open showing the reasons why the nodes cannot enter maintenance. You will need to decide how to proceed. You can cancel the update, solve the issues, and retry updating without

downtime. Or you can force the update on the listed nodes at once. In the latter case, the nodes in question will be rebooted, potentially causing a downtime of services running on them.

After the update is complete, node statuses will change to **Up to date**.

To update the kernel with ReadyKernel, consult the *Administrator's Command Line Guide*.

## CHAPTER 5

# Managing Licenses

The Acronis Cyber Infrastructure appliance is licensed for two types of deployments:

- Hybrid cloud. Comes with a 3-year hardware warranty and requires a subscription for Acronis Backup Cloud. After 3 years, the hardware warranty needs to be renewed for another 1 or 3 years.

For this deployment type, you will need to install a SPLA license as described in *Installing SPLA Licenses* (page 21).

- Private cloud. Comes with a 3-year license for Acronis Cyber Infrastructure and hardware warranty. After 3 years, both the license and warranty need to be renewed for another 1 or 3 years.

For this deployment type, you will need to install a license key as described in *Installing License Keys* (page 19).

For more details on licensing options, see the [Knowledge Base article #62324](#).

Acronis Cyber Infrastructure supports the following licensing models for production environments:

- License key. Implementing the provisioning model, keys are time-limited (subscription) or perpetual and grant a certain storage capacity. If a commercial license is already installed, a key augments its expiration date or storage limit.
- Services provider license agreement (SPLA). SPLA implements the pay-as-you-go model: it grants unlimited storage capacity and customers are charged for the actual usage of these resources. With SPLA, Acronis Cyber Infrastructure automatically sends reports to Acronis Cyber Cloud once every four hours. If no reports have been received for two weeks, the license expires. For reports to reach destination, the cluster must be able to access the Acronis datacenter that has been used to enable SPLA. Make sure that TCP port 443 is open.

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**Note:** SPLA license is valid for Cloud Partners. If SPLA is enabled, you can connect Backup Gateway only to Acronis Backup Cloud and not to Acronis Backup 12.5 or Acronis Backup Advanced 12.5. To connect Backup Gateway to these products, you will need to use license keys. Furthermore, Acronis Backup Gateway usage is not counted in SPLA in Acronis Cyber Infrastructure. SPLA only counts universal usage that is not related to backup. Backup usage is shown in the Acronis Backup Cloud section of Acronis Cyber Cloud.

---

You can switch the licensing model at any time:

- Switching from a license key to SPLA terminates the key even if it has not yet expired. Terminated keys cannot be used anymore.
- Switching from SPLA to a license key changes the licensing model to subscription or perpetual. After doing so, ask your service provider to terminate your SPLA by either disabling the Storage application for your account or deleting the account.

---

**Important:** If a license expires, all write operations to the storage cluster stop until a valid license is installed.

---

## 5.1 Installing License Keys

To install a license key, do the following:

1. If you are switching from SPLA, ask your service provider to terminate the agreement by either disabling the Acronis Cyber Infrastructure application for your account or deleting the account.
2. On the **SETTINGS > Licenses** screen, click **Upgrade** and **Register key**.

## ✕ Register license key

Enter product key

XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-  
XXXXXXXX-XXXXXXXX

REGISTER

3. In the **Register license key** window, paste the license key and click **REGISTER**.

41.52 MB of 1 TB → 5 TB space used

ACTIVATE CANCEL

4. Back on the **Licenses** screen, click **Activate** if you are activating from a trial or choose one of the following:

41.52 MB of 5 TB space used

Choose an activation option:

Upgrade

Prolong

ACTIVATE CANCEL

- **Upgrade**, to add storage capacity to the active license.
- **Prolong**, to prolong the soon-to-be-expired license.

And click **Activate**.

The expiration date or storage capacity will change according to what the key grants.

## 5.2 Installing SPLA Licenses

To install a SPLA license, do the following:

1. On the **SETTINGS > Licenses** screen, click **Upgrade** and **Use SPLA**.
2. In the **Use SPLA** window, select a region from the drop-down list and click **Activate**. You will be redirected to a login page of Acronis Cyber Cloud.

---

**Note:** For more information on datacenters, see <https://kb.acronis.com/servicesbydc>.

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3. Log in to Acronis Cyber Cloud.
4. In the **Register cluster** window, accept the license agreement.
5. In the registration confirmation window, click **Done**.

The registered cluster will show up in Acronis Cyber Cloud. You will be able to monitor its resource usage and download reports.



## CHAPTER 6

# Getting Technical Support

If you need technical support, please contact Acronis as follows:

1. Visit the contact support page at <https://www.acronis.com/en-us/support/contact-us/>.
2. Log in to your account.
3. Select the product you are using.
4. Choose how you would like to contact the support team: via e-mail or phone.

Please be ready to provide support engineers with remote access to your appliance, per your Service Level Agreement. To maintain security, it is recommended to whitelist only specific IP addresses communicated to you by support engineers and block external access from any other addresses. For more information, see the Knowledge Base at <https://kb.acronis.com/sdiremote>.

You can also use the following self-service resources:

- Knowledge base, <https://kb.acronis.com/>, a repository of frequently asked questions, step-by-step instructions, and articles about known issues. Visit the following knowledge base sections for information on this appliance and related software solutions:
  - Appliance, <https://kb.acronis.com/acronis-appliance>
  - Acronis Cyber Infrastructure, <https://kb.acronis.com/acronis-cyber-infrastructure>
  - Acronis Backup Cloud, <https://kb.acronis.com/acronis-backup-cloud>
  - Acronis Backup 12.5, <https://kb.acronis.com/acronis-backup-12-5>
- User documentation, guides describing how to use this appliance as well as Acronis software, <https://www.acronis.com/support/documentation>.

For information on appliance warranty, see the Support section at <https://www.acronis.com/en-us/support/hwappliancesupport>.

## CHAPTER 7

# Appendix: Specifications

This chapter lists technical and environmental specifications of the appliance.

## 7.1 Technical Specifications

The following table lists appliance hardware parts.

Chassis	3U, 435x130x600 mm (WxHxD), 34.5 kg
CPU	Intel Atom C3958 @ 2.00GHz, 16 cores, 31W TDP, VT-d support, w/o Hyper-Threading
RAM	32GB (up to 256GB), Samsung, 2x16GB DDR4-2400 ECC
OS drive	1x Intel S4600 240GB 2.5-inch SSD
Cache drive	1x Intel S4600 240GB 2.5-inch SSD
Storage drives	3x Seagate 4/8/10/12TB enterprise SATA HDD per node, 15x in total
Network	2x 1/10GbE RJ45, 2x 10GbE SFP+
Power supply	750W 1+1, current share and cold redundancy depending on power loads (also see table below)
IO ports	Rear: 2x USB 2.0, 1x VGA, 2x 1/10GbE RJ45, 2x 10GbE SFP+, 1x GbE RJ45 management
Software	Acronis Cyber Infrastructure 3.5
Data protection	Replication and erasure coding via storage policies

Continued on next page

Table 7.1.1 – continued from previous page

Redundancy	Hot-swappable data disk drives 2x hot-swappable power supplies No single point of failure Non-disruptive online software upgrades
Monitoring, management	CLI, GUI, API, IPMI

## 7.1.1 Power Supply Specifications

The following table lists appliance power supply specifications.

Voltage, frequency	100-240 V, 50/60 Hz			
Power consumption, W	750			
Heat dissipation max (BTU/hr)	2,300			
Max inrush, A	40			
Input current	AC input		Max. current	
	100–127 Vac, 8.8 A		200–240 Vac, 4.3 A	
Power supply efficiency (Platinum class)	10% load	20% load	50% load	100% load
	80%	90%	94%	91%
Input power factor correction*	Output power	20% load	50% load	100% load
	Power factor	>0.80	>0.95	>0.95

\* Tested at 230 Vac, 50 Hz and 115 Vac, 60 Hz. The input power factor is greater than values in the table at power supply's rated output and meets Energy Star® requirements.

## 7.2 Environmental Specifications

Appliance environmental specifications are listed in the following tables.

Store temperature	-40°C to 85°C (-40°F to 185°F)
Store temperature gradient	20°C (68°F) per hour
Operating temperature	10°C to 35°C (50°F to -95°F)
Operating temperature gradient	20°C (68°F) per hour

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Table 7.2.1 – continued from previous page

Relative humidity percentage range for storage	10% ~ 95% (non-condensing)
Relative humidity percentage range for operating	10% ~ 85% (non-condensing)
Vibration for storage	1.87 Grms (10-500 Hz)
Vibration for operating	0.26 Grms (5-350 Hz)
Shock for storage	65G for 2ms
Shock for operating	5G
Altitude for storage	12,000m (39,370 ft)
Altitude for operating	3,048m (10,000 ft)

## 7.2.1 Air Quality Requirements

The air must be free of:

- corrosive dust and/or corrosive contaminants
- conductive dust or conductive particles (such as zinc whiskers)

Airborne residual dust must have a deliquescent point\* less than 60% relative humidity. (\*The relative humidity at which crystalline materials begin adsorbing large quantities of water from the atmosphere.)

Gaseous corrosion level in terms of (in Angstrom) as per ISA:

- Copper reactivity rate must be less than 300 Å/month, class G1(ANSI/ISA71.04-1985).
- Silver reactivity rate must be less than 200 Å/month (AHSRAE TC9.9).