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Milestone Husky IVO™ 350R Rev. 2

Getting started and maintenance guide

June 2025



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All names of people and organizations used in the examples in this text are fictitious. Any resemblance to any actual organization or person, living or dead, is purely coincidental and unintended.

This product may make use of third-party software for which specific terms and conditions may apply. When that is the case, you can find more information in the file `3rd_party_software_terms_and_conditions.txt` located in your Milestone system installation folder.

## Safety

### Warning!



Risk of explosion if battery is replaced by incorrect battery type.

Dispose of used batteries according to the instructions.

### Caution

Replacement of a BATTERY with an incorrect type that can defeat a SAFEGUARD (for example, in the case of some lithium BATTERY types).



Disposal of a BATTERY into fire or a hot oven, or mechanically crushing or cutting of a BATTERY, that can result in an EXPLOSION.

Leaving a BATTERY in an extremely high temperature surrounding environment that can result in an EXPLOSION or the leakage of flammable liquid or gas.

A BATTERY subjected to extremely low air pressure that may result in an EXPLOSION or the leakage of flammable liquid or gas.



Make sure to connect the power cord to a socket-outlet with earthing connection.

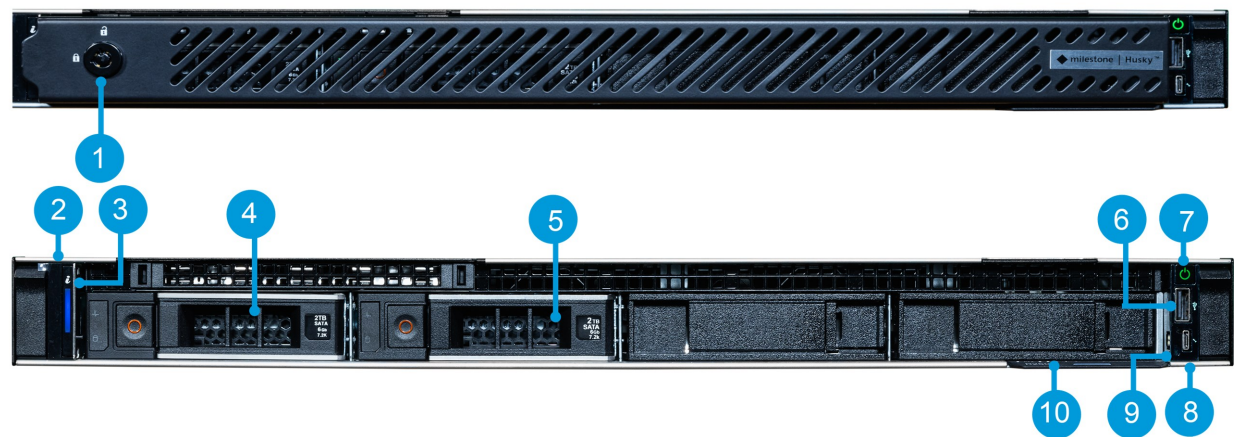
Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

## About this guide

This getting started and maintenance guide for Milestone Husky IVO is a point of reference to the Milestone Husky software and Milestone Husky hardware.

This guide describes Husky Assistant, an application that helps you install, maintain, and reconfigure your system.

## Front view



1. Bezel lock	2. Status LED indicators	3. System health and system ID indicator
4. 3.5"Hard drive slot	5. 3.5"Hard drive slot	6. USB 2.0 port
7. Power button	8. iDRAC Direct micro port	9. iDRAC Direct status LED
10. Express service tag		

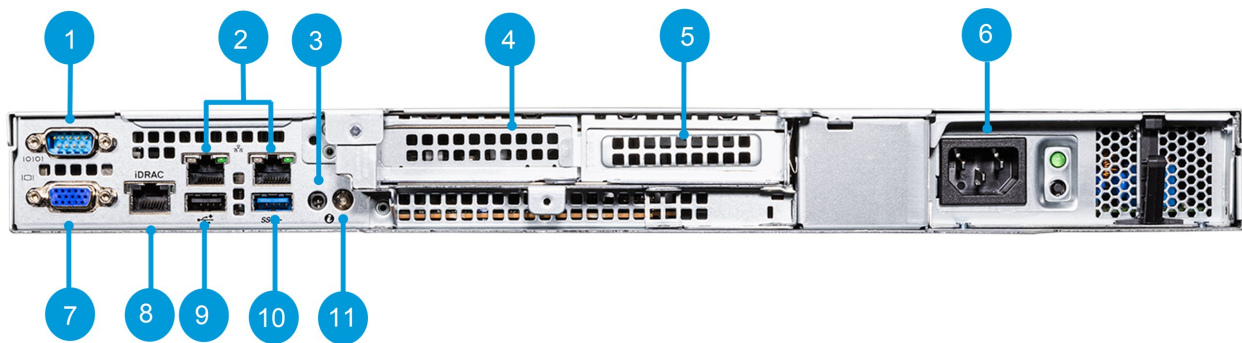
## Opening the unit

If you need to unlock and remove the bezel to open the unit and install or remove system components, see the link to the detailed hardware documentation below.

Please read and follow the safety instructions in the detailed hardware documentation when handling the unit.

For more information, see [Link to detailed hardware documentation on page 11](#)

## Back view



1. Serial com port	2. Ethernet ports (10/100/1000 Mbps)	3. CMA (Cable Management Arm) jack
4. PCI expansion card slot 1	5. PCI expansion card slot 2	6. Power supply
7. VGA port	8. iDRAC ethernet port	9. USB 2.0 port
10. USB 3.2 Gen 1 port	11. System Identification button	



## Information tag and model label

### The information tag

You can identify your system by the information tag. Pull out the information tag in front of the system to view the unique identifiers. The information tag contains the following information:

Service tag	The unique express service code and service tag. Refers to the serial number of the unit. Always provide the details when contacting support.
Main board ethernet card MAC address	The physical address (MAC address) of the on-board ethernet card.



The information tag can sometimes be referred to as the luggage tag.

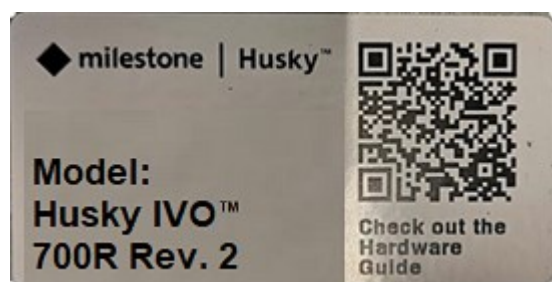
### The model label

The model label displays the revision number of your Husky IVO unit.

Revision numbers change when the physical machine a Husky IVO product is based upon, is changed. This is because a different physical machine may result in different hardware and software configurations, that will in turn require a revision of the Husky IVO product. Sometimes the change is substantial, other times the change is negligible.

The model label is located on top of the unit cover.

The image below illustrates a model label for a Milestone Husky IVO 700R Rev. 2 unit.



The model label for other Husky IVO products will only vary by product name (Milestone Husky IVO™ 150D, Milestone Husky IVO™ 350R, Milestone Husky IVO™ 350T, Milestone Husky IVO™ 700R, Milestone Husky IVO™ 1000R, or Milestone Husky IVO™ 1800R).



Only revision 2 and above are displayed on the model label. Revision 1 is considered the baseline model and is not displayed.



When contacting support, it is recommended to have the revision number ready as some hardware and software configurations may vary from revision to revision.

## Link to detailed hardware documentation

For more information on the specific features and functionality of your unit, see [Installation and service manual](#).



The documentation provided can have slightly different specifications or configurations compared to your Milestone Husky IVO unit.

## Getting started checklist

This guide applies to all models of the Milestone Husky IVO. Follow the checklist below to ensure that you carry out the steps of your installation in the right order.

<input type="checkbox"/>	Prepare network and devices	<ul style="list-style-type: none"> <li>Assign static IP addresses to all system components and cameras</li> <li>Make sure camera models and firmware are supported by the XProtect system</li> <li>Cameras must be connected to the network, and you can access them from your unit</li> </ul>
<input type="checkbox"/>	Obtain a software license code	<ul style="list-style-type: none"> <li>Purchase XProtect software and obtain the license file</li> <li>Go to the Milestone website (<a href="https://online.milestonesys.com/">https://online.milestonesys.com/</a>) and register your software license code (SLC)</li> </ul>
<input type="checkbox"/>	Prepare your unit	<ul style="list-style-type: none"> <li>Mount the unit on a shelf for the desktop and tower models, or use rails for the rack models, to support the chassis</li> <li>Connect peripherals, LAN, and power</li> </ul>
<input type="checkbox"/>	Turn on the unit and complete the Husky Assistant	<ul style="list-style-type: none"> <li>Configure computer name and domain or workgroup settings</li> <li>Hard drive detection</li> <li>Select the preferred storage configuration</li> <li>Select the XProtect software version</li> <li>Links to detailed description of system installation</li> </ul>
<input type="checkbox"/>	Download the latest XProtect Device Pack	<ul style="list-style-type: none"> <li>A device pack is automatically included when you install the XProtect software. For support of new devices and firmware versions, get the latest device pack</li> </ul>
<input type="checkbox"/>	Update Windows®	<ul style="list-style-type: none"> <li>Make sure that your Windows operating system is updated with all the latest Windows updates</li> </ul>
<input type="checkbox"/>	Install clients on other computers	<ul style="list-style-type: none"> <li>Install XProtect Smart Client and XProtect Management Client on other computers for better system performance</li> </ul>

## Before you install

Milestone recommends that you go through the steps described in this article before you start the actual installation.

### Prepare network and devices

1. Assign static IP addresses to all system components, devices, and cameras.

To prepare and configure your devices or cameras, follow the instructions provided by the camera manufacturer.

2. Make sure that your cameras and devices are supported and connected to the camera network.

On the Milestone website, you can find a detailed list of supported devices and firmware versions (<https://www.milestonesys.com/support/tools-and-references/supported-devices/>).

### Obtain a software license code

Your Milestone Husky unit is shipped with XProtect video management software pre-loaded, and you can use it with any version of the five XProtect VMS products by applying a valid software license code (SLC). You receive the SLC when you purchase the XProtect product. Read more about Milestone XProtect products and Milestone Care™ coverage on the Milestone website to find out which product matches your needs.

The SLC is printed on your order confirmation, and the software license file is named after your SLC. Milestone recommends that you register your SLC on the Milestone website (<https://online.milestonesys.com/>) before installation. Your reseller may have done that for you.

When you run Husky Assistant, you can see the version of the pre-loaded VMS. If you want a different version, you can choose that option if you have a valid SLC.

If your unit is used as a recording server to an existing VMS system, you do not need an SLC. This setup is covered by the SLC that you bought with the VMS system.

XProtect software is licensed through different types of licenses:

- Base licenses: Controls which XProtect product you can use.
- Device licenses: Controls how many hardware devices you may connect to the Milestone Husky unit. A hardware device can be a camera, encoder, or similar, identified by a separate IP address. You do not need licenses for speakers, microphones, or input and output devices attached to the hardware devices.
- XProtect extensions: Your new Milestone Husky unit can run any XProtect extension. Most XProtect extensions require additional licenses.

After installation, the surveillance system runs on licenses that need to be activated before a certain period ends. This is the grace period. Once the installation is complete, you can get an overview of your licenses for all installations with this SLC on the Basics > License Information node in the Management Client.

Milestone recommends that you activate your licenses before you make the final adjustments.

- For online activation, log in to the Software Registration page with your My Milestone account on the Milestone website (<https://online.milestonesys.com/>).
- For offline activation, you must export a license request (.lrq) file in the Management Client, and then log in to the Software Registration page and upload the .lrq file.

Once you have uploaded the .lrq file, Milestone emails you an activated .lic file for import.

## Prepare your unit



Always place the unit on a shelf or use rails to support the chassis.

1. Connect your peripherals: mouse, keyboard, display and audio.
2. Connect your local area network with internet connection, if available, to a NIC port. This network is for management and viewing.
3. Connect your camera network to a different NIC port. If your unit is equipped with a higher bandwidth network card, connect your camera network to the this network port.
4. Connect all power cables and plug them into a power socket.

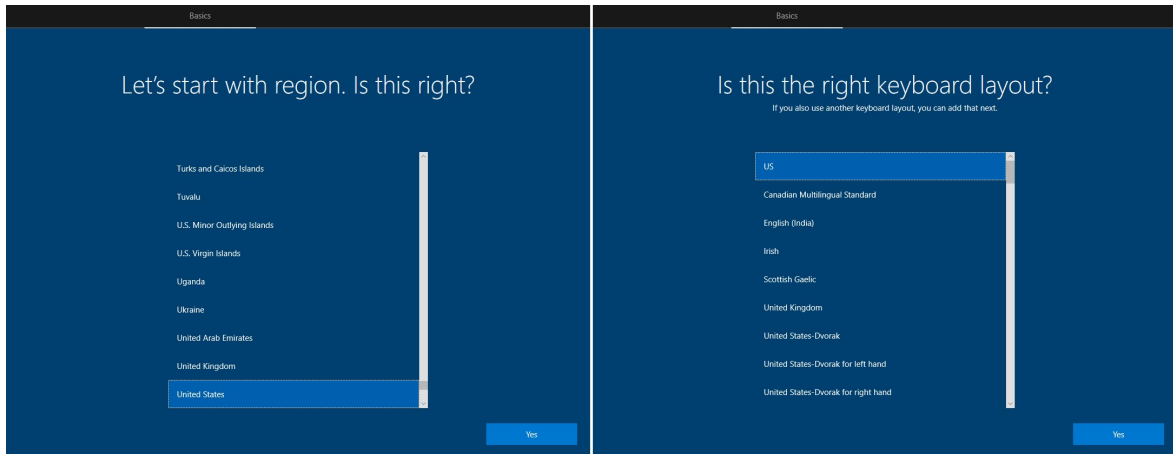
## Turn on the unit

Turn on your Milestone Husky unit and wait for Windows to boot for the first time.

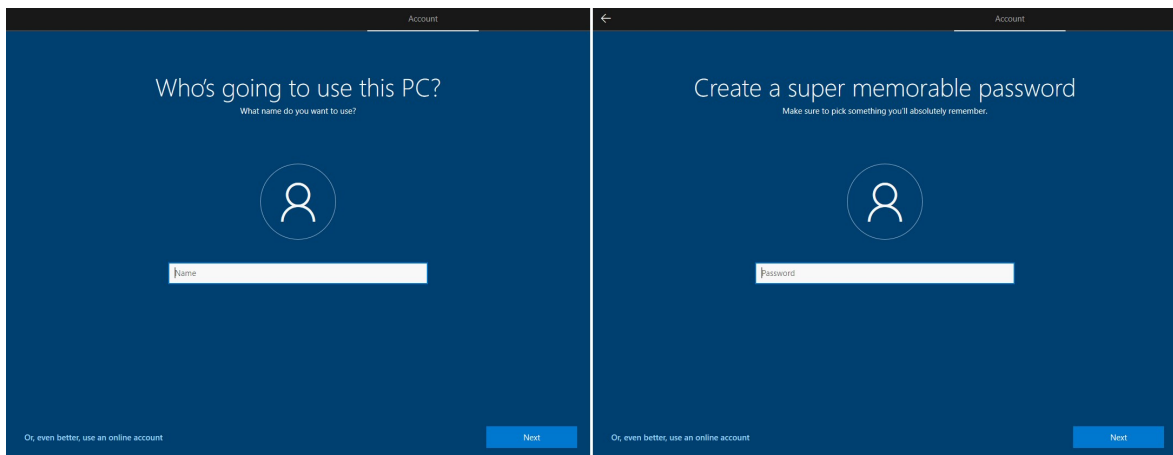
### Windows first run

Configure the country, language, keyboard, and account information:

1. Select your region and click **Yes**.

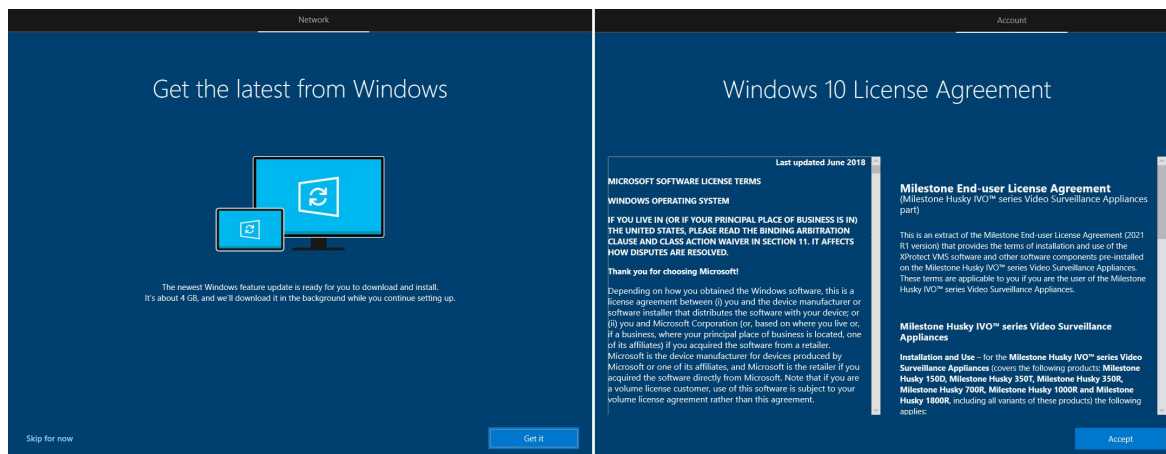


2. Select the right keyboard layout and click **Yes**.
3. Add a second keyboard layout or click **Skip**.
4. Create a user account and click **Next**.



5. Create password and click **Next**.
6. Confirm password and click **Next**.
7. Add a hint and click **Next**.

8. **Get the latest Windows updates or click Skip for now.**



9. **Accept** the license agreements.

10. Complete the services selection and wait for the Windows desktop to appear.



## Complete the Husky Assistant Wizard



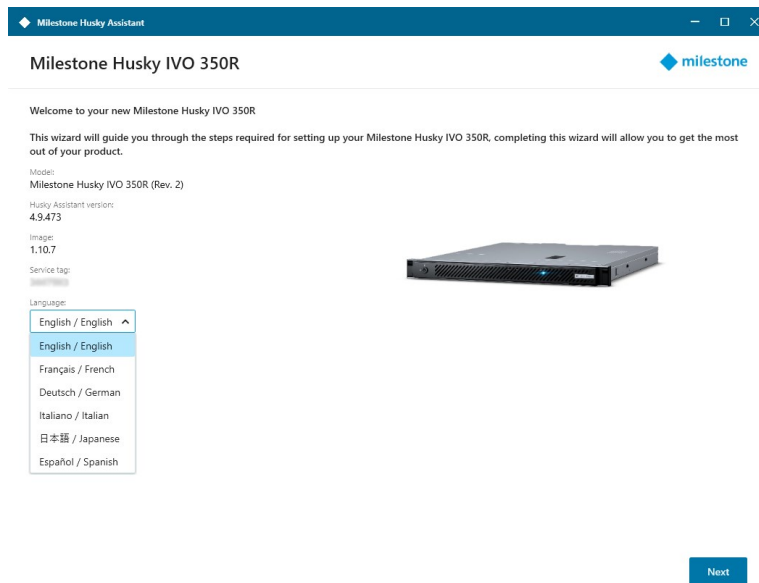
Have your Milestone XProtect license file ready if you want to install Milestone XProtect VMS on your Husky IVO unit as part of completing the Husky Assistant wizard. You can complete the Husky Assistant wizard without installing Milestone XProtect but XProtect must then be manually installed later.

Husky Assistant now starts automatically. This wizard helps you check, select, and configure your Milestone Husky IVO with:

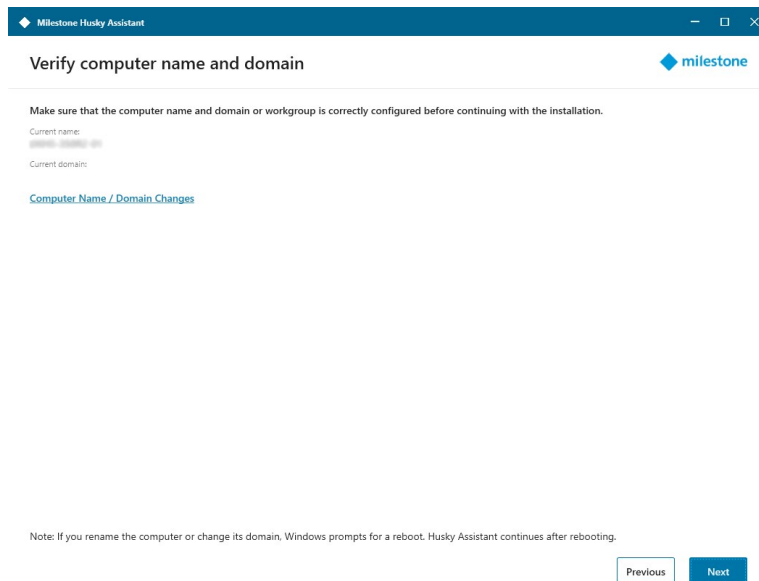
- Computer name and domain or workgroup
- Data storage drive detection
- Data storage configuration
- Milestone XProtect version
- Additional system optimizations

To complete the wizard:

1. Select your preferred Husky Assistant language and click **Next**.



2. Click **Computer name / Domain changes** to configure computer name and domain or workgroup settings.



The computer name must be between 1 and 15 characters long and must not be "localhost".

### **Additional computer naming restrictions**

The following characters cannot or should not be used in computer names:

- backslash (\)
- slash (/)
- colon (:) )
- asterisk (\*)
- question mark (?)
- quotation mark (")
- less than sign (<)
- greater than sign (>)
- vertical bar (|)
- periods (.)
- hyphen (-)
- underscore (\_)



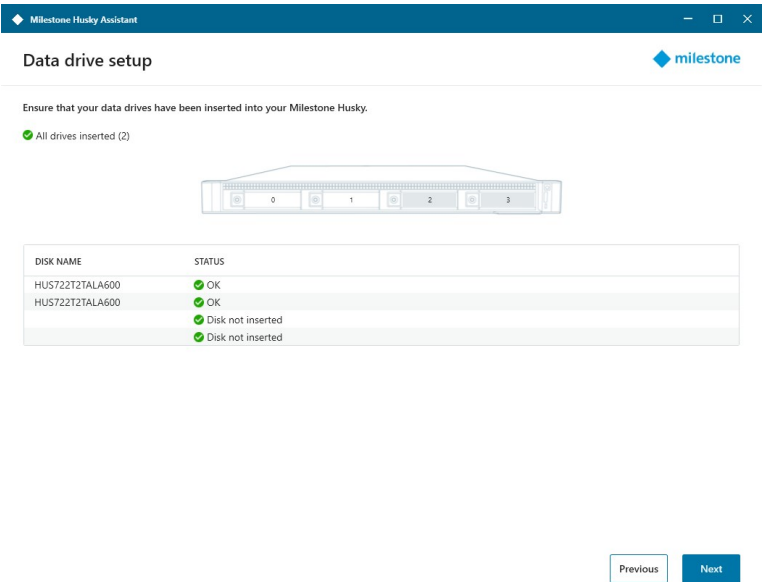
The first character of a computer name must be alphabetic or numerical and computer names may not consist of only numerals if the computers is a member of an Active Directory domain.



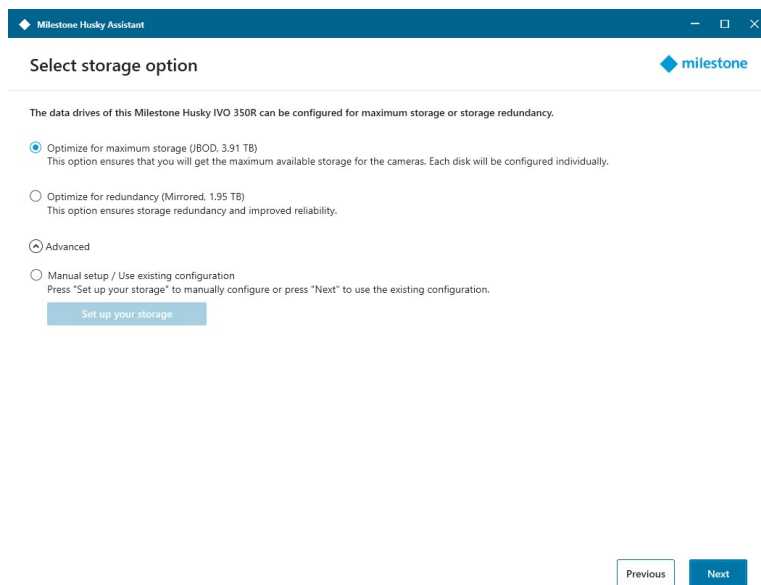
Limit the characters used in the computer name to alphabetic (A-Z) or numerical (0-9) only.

When completed, Windows will require a restart to apply the changes.

3. Restart Windows and wait for Windows to boot.  
Husky Assistant restarts. Click **Next**.
4. Because you have already configured the name and domain setting, click **Next**.
5. Make sure that all the hard drives are detected and click **Next**.



6. Select the storage option to match your storage requirement. Click **Next**.



The screenshot shows the 'Milestone Husky Assistant' window with the title 'Select storage option'. Below the title bar, the Milestone logo is visible. The main content area contains the text: 'The data drives of this Milestone Husky IVO 350R can be configured for maximum storage or storage redundancy.' There are three radio button options: 1. 'Optimize for maximum storage (JBOD, 3.91 TB)' with a sub-note 'This option ensures that you will get the maximum available storage for the cameras. Each disk will be configured individually.' 2. 'Optimize for redundancy (Mirrored, 1.95 TB)' with a sub-note 'This option ensures storage redundancy and improved reliability.' 3. 'Advanced' (selected by default). Below the 'Advanced' option is a sub-note: 'Manual setup / Use existing configuration. Press "Set up your storage" to manually configure or press "Next" to use the existing configuration.' A blue button labeled 'Set up your storage' is positioned below this sub-note. At the bottom right of the window, there are two buttons: 'Previous' and 'Next'.

The unit is by default supplied with two drives, but you can add up to two additional drives if necessary. Storage management for these additional drives must be set up manually.

The **Advanced** option is to manually configure the RAID using the RAID storage manager application.

7. You have different options when selecting the Milestone XProtect version to install. Select one of these options:

**Choose Milestone XProtect VMS version**

Your Milestone Husky comes pre-loaded with the world's best VMS. This software is ready for you to install, or you can choose the version that is right for you.

I want to install the full Milestone XProtect VMS on this Milestone Husky:

☒ Install pre-loaded Milestone XProtect  
Version 2023 R3  
Newest version pre-loaded  
[Download](#)

☐ Select Milestone XProtect installer  
You can choose to install a different version of Milestone XProtect from [Milestone website](#)  
Click Browse to select your downloaded Milestone XProtect VMS version  
[Browse](#)

☐ I do not want to install the full Milestone XProtect VMS on this Milestone Husky:

☐ Download and install a recording server from an existing Management Server  
If this Husky will be a part of an existing installation, you can choose to install the Recording Server from your Management Server

☐ Do not install Milestone XProtect now  
You can manually install Milestone XProtect on your Husky anytime

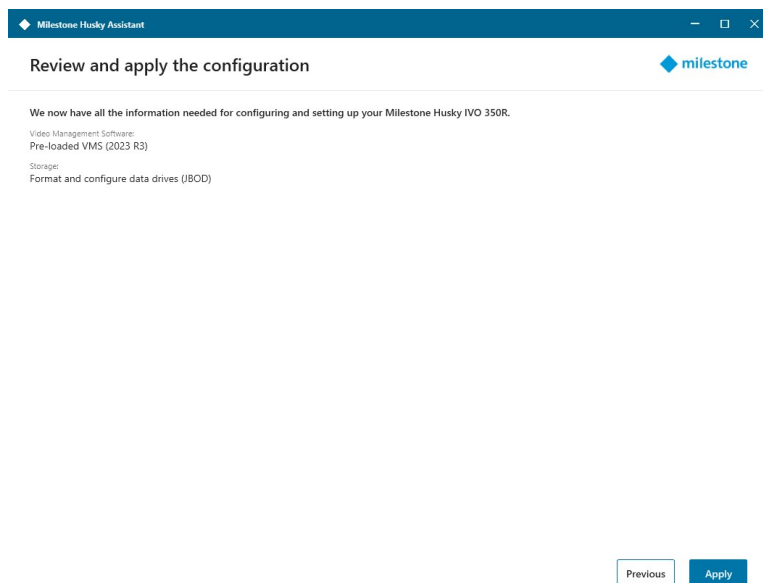
[Previous](#) [Next](#)

- Check if the pre-loaded XProtect version is the version that you want to install. If yes, select **Install pre-loaded Milestone XProtect** and click **Next**.
- If you want to install an XProtect version different than the pre-loaded one:
  1. Choose **Select Milestone XProtect installer**.
  2. Download the XProtect version that you prefer from the **Milestone website**.
  3. Click **Browse** to select the downloaded installer file and click **Next**.
- To use your unit as a recording server in an already existing Milestone XProtect system:
  1. Select **Download and install a recording server from an existing Management Server** and click **Next**.
  2. Provide the IP address of the computer with the management server installed, and credentials.
  3. Click **Next**. The installation files for the recording server will be downloaded from the management server later.
- Select **Do not install Milestone XProtect now** if you want to install Milestone XProtect later without the aid from Husky Assistant.



Remember to apply optimizations in Husky Assistant after installation.

8. The **Review and apply the configuration** window appears. Verify your selections and click **Apply** to start the process.



The system automatically starts the Milestone XProtect installation. For more information, see the [administrator manual for XProtect VMS](#).

After you have completed the Husky Assistant wizard, the application changes and Husky Assistant now serves as an application that helps you configure, maintain, and see the status of your Milestone Husky system. Find the Husky Assistant shortcut on the Windows desktop.

## Post-installation tasks

### Download the XProtect® Device Pack

A device pack is a set of drivers that is installed with your XProtect system to interact with your devices. A device pack is installed on the recording server. Milestone adds support for new devices and firmware versions on an ongoing basis, and releases device packs every two months on average. A device pack is automatically included when you install the XProtect system. To get the latest device pack, manually check for newer versions to download and install.

To update your device pack after installation, go to the download section of the Milestone website (<https://www.milestonesys.com/download/>) and download the relevant installation file.



If your system uses very old cameras, you may need to download the device pack for legacy devices. For more information, see <https://www.milestonesys.com/support/software/device-packs/>.

### Update Windows

To update your Windows operating system with all the latest Windows updates, go to Windows Update settings and check for updates. Make sure to install all available updates and restart the Husky unit if required.

### Install clients on other computers

You can access your XProtect system from other computers via the clients. Accessing the clients from remote computers will give you better system performance and free up system resources on your Milestone Husky unit. The clients are:

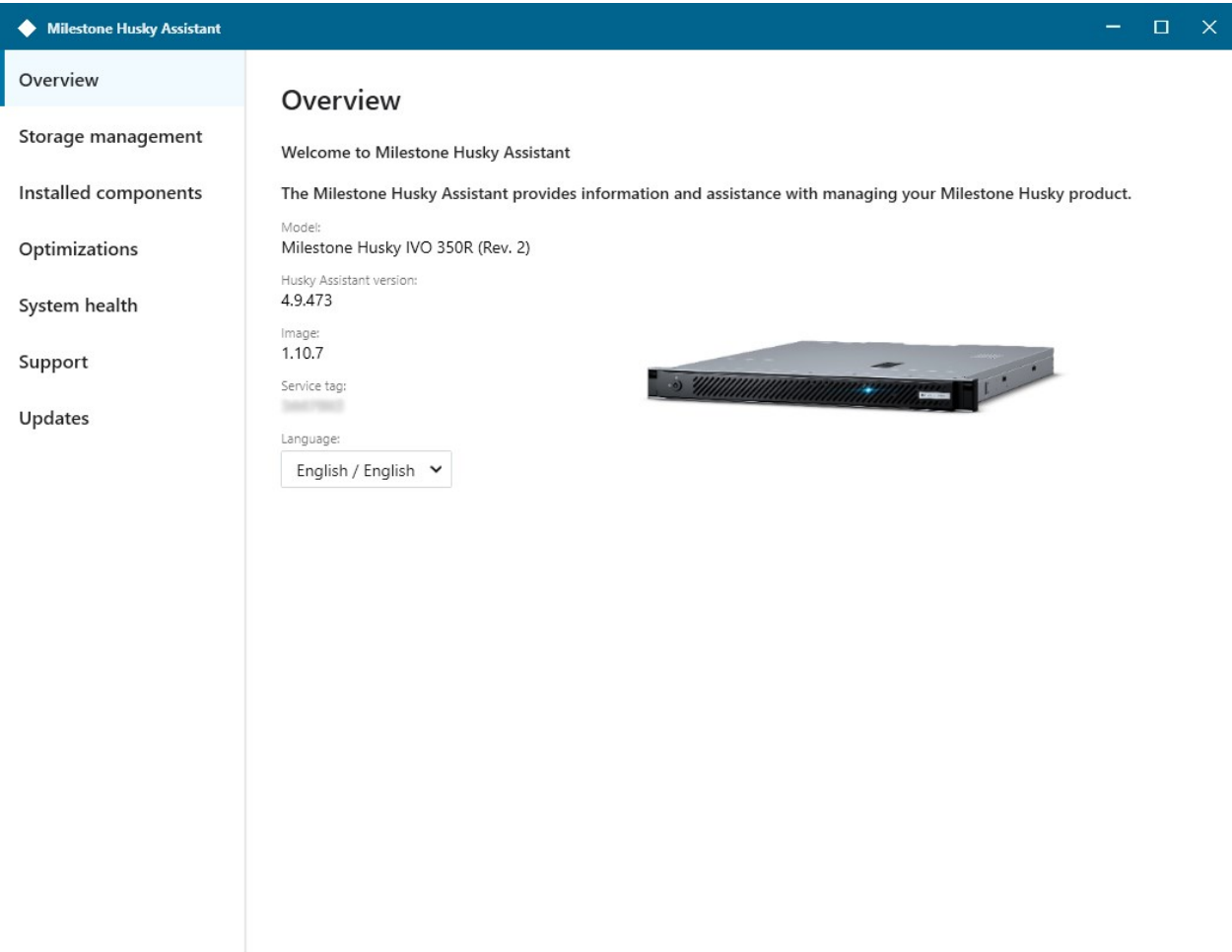
- XProtect Smart Client (used for viewing video)  
See also how to [install XProtect Smart Client](#) in the user manual for Smart Client.
- XProtect Management Client (used for configuring and managing the system)  
For more information, see how to [install new XProtect components](#) in the administrator manual for your XProtect VMS.



# Husky Assistant

Husky Assistant is an application that helps you configure, maintain, and see the status of your Milestone Husky system. Find the Husky Assistant shortcut on the Windows desktop.

## Husky Assistant Properties



The Husky Assistant has the following features:

Navigation element	Description
Overview	<div>A list of details about the unit:</div> <ul style="list-style-type: none"><li>Model: Milestone Husky model</li></ul>

Navigation element	Description
	<ul style="list-style-type: none"> <li>• Version: Milestone Husky Assistant version</li> <li>• Image: Husky firmware version</li> <li>• Serial number / Service tag: Refers to the service tag of the unit. Serial number was used for older versions of the unit.</li> </ul> <p>You can change the language in which Husky Assistant appears.</p>
<b>Storage management</b>	<p>Information about the available data storage hard drives.</p> <p>See the status of the disks.</p>
<b>Installed components</b>	A list of installed Milestone software components and versions.
<b>Optimizations</b>	A list of applied or available optimizations you can apply.
<b>System Health</b>	<p>Connect your Husky IVO unit to the XProtect management server to display an overview of the system health statistics of the unit in XProtectManagement Client.</p> <p>You can also use this page to download the Husky IVO System Health plug-in used to display the system health statistics in XProtectManagement Client.</p>
<b>Support</b>	<p>Run the Milestone Diagnostics Tool to create files that are needed for the Milestone reseller when the reseller helps you troubleshoot.</p> <p>Lists the information that you need to contact Milestone Support. Always contact your Milestone reseller that you have bought the unit from before contacting Milestone Support.</p> <p>Link to Milestone Support.</p>
<b>Updates</b>	<p>Update your Husky software components.</p> <p>Displays the installed versions of the Milestone Husky Services Installer and the Milestone Husky System Health Services Installer and indicates if the installed versions are up to date.</p> <p>If you can update your unit, you can start the update on the unit in question. If you have multiple Husky units, you must manually start the update on each unit.</p>

## Choose your language

To select your preferred language:

1. Open Husky Assistant.
2. On the **Overview** tab, select your preferred language from the list of available languages.



Husky Assistant chooses English by default. All language changes require a restart of Husky Assistant.

## Storage management

On this tab you can see information about and the status of data hard drives.

You can also identify a faulty hard drive and prepare new hard drives for use with Milestone XProtect VMS.

### Check data hard drive status

To check the status of the data hard drives:

1. Select the **Storage management** tab.
2. The status of the data storage hard drives is shown. The different states are:

Status	Description
OK	Normal working state.
Needs attention	The hard drive is missing a configuration that you can apply. For more information, see Prepare hard drives.
Failed	The hard drive is faulty. Get the hard drive replaced. After replacement, see Prepare hard drives.

## Choose storage type

This table describes the available storage types.

Storage type	Description
JBOD	This option ensures that you will get the maximum available storage for the cameras. Each disk will be configured individually.
Mirrored	This option ensures storage redundancy and improved reliability.

## Configure data storage type

To change the data storage type:

1. Check if the current storage status is **OK** and select **Configure**.
2. Accept any user account control warning and select storage type.
3. Select **Apply**. A summary screen appears. Check that the hard drive status is **Good**.

## Apply optimizations

Husky Assistant can help you to optimize Windows for running XProtect software and to optimize XProtect software for running on your Husky unit. If you have installed Milestone XProtect VMS without using Husky Assistant, you need to apply the available optimizations. To check if any optimizations are available:

1. Select the **Optimizations** tab.
2. A list of the available optimizations appears.
3. If an optimization is available, click **Optimize**.
4. Accept any user account control warning and wait for the optimization to be applied.
5. Check that the optimization is applied.

## System Health

Husky IVO System Health displays an overview of the system health of all connected Husky IVO units in your XProtect Management Client. This helps you monitor the system health statistics of the connected Husky IVO units and troubleshoot potential problems before problems arise.

To set up Husky IVO System Health:

1. Download and copy the Husky IVO System Health plug-in installer to your XProtect management server.
2. Double-click the installer and follow the instructions to install the plug-in on your XProtect management server. You may need administrator privileges to install the plug-in on the machine.

3. Connect each Husky IVO unit to the XProtect management server using Husky Assistant.

Each Husky IVO unit must be connected manually using the Husky Assistant on the unit.

## Support

If you have a problem and need support, contact your Milestone reseller that you bought the unit from.

### Create a diagnostics file

To help your Milestone reseller get logs and details about your system, create a Milestone diagnostics .zip file that lists the system information:

1. Select the **Support** tab.
2. Click **Milestone Diagnostics Tool**.
3. Accept any user account control warning. The **Main Page** appears.
4. Click the **Collect Defaults** icon to start creating a diagnostics .zip file.
5. When finished, the diagnostics .zip file is saved on the Windows desktop. You can now move or transfer the file to any preferred location.
6. Close Milestone Diagnostics Tool.
7. Provide your Milestone reseller with the diagnostics .zip file when they assist you in troubleshooting a problem.

## Updates

Update your Husky software components to improve performance, increase security, obtain better stability, receive new features and update existing functionality.

If you update your Husky software components, existing functionality may change and new features may be introduced.

Updating requires the unit is connected to the internet.

## Recovery

You can do a recovery on your Milestone Husky unit, which resets your unit to the factory default state and lets you start over and reconfigure your unit from scratch.

Recovery will:

- Reset your Husky unit to the factory default
- Run Husky Assistant wizard to configure your unit
- Help you install Milestone XProtect



All data on the Windows (C:) drive will be lost, and your XProtect system will not record any video during the recovery of your unit. You can save the Milestone XProtect VMS configuration before you start the recovery.



Data on the Data (D:) and Data (E:) drives will not be deleted.

For detailed feature descriptions and procedures for configuration and maintenance, see the [administrator manual for XProtect VMS](#).

## Factory reset from recovery partition

You can perform a factory reset from the recovery partition of your unit if you are running Husky Assistant version 4.2 or later and using the Husky Image version 1.3 or later.



The Husky Assistant version and the Husky Image version are displayed on the **Overview** page of the Husky Assistant properties.

Your Husky IVO unit must also have successfully completed first use installation and configuration as the recovery partition is created by the Husky Assistant during the first use configuration process.

If your Husky product does not contain the recovery partition or if you do not want to use the recovery partition on the unit, you can perform a factory reset by using a bootable USB flash drive from Milestone support.

### To perform a factory reset from the recovery partition from within Husky Assistant

If you are running a Husky IVO unit with a recovery partition and Husky Assistant version 4.6 or newer, you can perform a factory reset from the recovery partition from within Husky Assistant.

1. On your Husky IVO unit, open Husky Assistant in maintenance mode, open the **Support** page and click the **Factory Reset** button to open the **Choose an option** page.  
The **Factory Reset** button will not be available if you use Remote Desktop to access your Husky IVO unit.
2. On the **Choose an option** page, click **Troubleshoot** and select **Husky factory reset** to start the **Husky IVO Recovery Tool**.
3. When the **Husky IVO Recovery Tool** is displayed, press **Start** to start the factory reset process and follow the instructions.

#### To perform a factory reset from the recovery partition from within Microsoft Windows

1. On your Husky IVO unit, open the **Recovery** page in **Windows settings > Update and Security** page and press **Restart now** in **Advanced startup** to start your Husky unit in Windows recovery mode. When the **Choose an option** page is displayed, click **Troubleshoot** and select **Husky factory reset** to open the **Husky IVO Recovery Tool**.
2. In **Husky IVO Recovery Tool**, press **Start** to initiate the factory reset process and follow the instructions.

#### To perform a factory reset from the recovery partition outside Microsoft Windows

If you cannot access your Microsoft Windows operating system, you can start a factory reset of your Husky unit during the initial boot sequence before Windows is loaded.

1. When your Husky IVO unit is turned off, turn on the unit, and during the startup sequence, press **F8** to open the **Advanced Boot options** page.  
You may have to press **F8** several times to ensure the system boots into the menu and doesn't start your Windows operating system. If Windows does start, let Windows load and turn off the unit again to repeat this step until the **Advanced Boot options** page opens.
2. On the **Advanced Boot options** page, click **Repair your Computer** to open the **Choose an option** page.
3. On the **Choose an option** page, select **Troubleshoot** to open the **Troubleshoot** page and click **Husky factory reset** to open the **Husky IVO Recovery Tool**.
4. In the **Husky IVO Recovery Tool**, press **Start** to initiate the factory reset process and follow the instructions.

## Factory reset from a bootable USB device

You can also perform a factory reset by using a bootable USB flash drive from Milestone support and starting your Husky IVO unit from the USB device.

**Before the recovery process:**

1. Contact Milestone support to get the latest recovery software.
2. Get help from Milestone support to create a bootable USB flash drive.
3. Connect the USB flash drive to your Milestone Husky IVO unit.
4. Prepare the BIOS settings to boot from USB flash drive.

**To start the recovery process:**

1. Restart your unit.
2. Boot from the USB flash drive.
3. Your unit boots into recovery mode. Follow the instructions to complete the process.



For more information on first time use, see [Turn on the unit on page 15](#) and [Complete the Husky Assistant Wizard on page 17](#).



## XProtect Upgrade

Your Milestone Husky unit can run with any product variant and version of Milestone XProtect VMS determined by the Software License Code (SLC). Your Milestone Husky unit has a preloaded XProtect VMS version ready to be installed, but you can always download and install a newer or older version of Milestone XProtect VMS that matches your license.

You can upgrade your entire system configuration from one product version to another, for example from XProtect 2020 R3 to XProtect 2021 R1. You can install the new product on top of the old version without removing the previous version.



Remember to apply available VMS optimizations after the upgrade. For more information, see [Husky Assistant on page 25](#) > Apply optimizations.

### Accessing Husky software updates

Please contact Milestone support for access to upgrades and other related software update packages for your Husky unit.

In some cases, you can access software update packages directly by logging in to My Milestone.

## System scaling

To be able to scale to thousands of cameras across multiple sites, the system consists of components that handle specific tasks. If you have installed all components on a standalone Milestone Husky IVO unit, you can expand your system by installing the components on separate dedicated servers in a distributed system to scale and distribute the load.

Not all components are needed in all installations. You can always add additional recording servers, failover recording servers, or XProtect Mobile servers for hosting and providing access to XProtect Mobile client and XProtect Web Client.

## Troubleshooting

### Replacing a disk in Windows Storage Spaces

Your Husky IVO unit utilizes Windows Storage Spaces for data mirroring, so data is not lost if a disk fails. Data mirroring enables stored video files to be distributed across multiple disks for data redundancy.

If you have discovered a failed, faulty, or failing disk (often marked with warnings before the disk fails), you can mitigate potential data loss by replacing it.

If a disk is replaced with a new disk, the system can be rebuilt, and data will be mirrored from the intact disks, restoring data redundancy.

To replace a disk in Windows Storage Spaces, you must:

#### 1. Remove the failed, faulty, or failing disk

1. Open Husky Assistant, and on the **Storage Management** page, click **Set up your storage** to open the **Storage Spaces** page. In Windows you can open the **Settings** page and click **Storage > Manage Storage Spaces**.
2. On the **Storage Spaces** page, check for any drive warnings for the storage space and the physical drives in the **Manage Storage Spaces** overview.



Note that a drive will still be visible in the **Manage Storage Spaces** overview even though it has been physically removed from the machine.

3. Open your Husky IVO unit and remove the physical disk, taking care to remove the correct disk.
4. Insert a replacement disk and close your Husky IVO unit.

#### 2. Add the replacement disk to the Windows storage pool

When you have inserted a replacement disk into your Husky IVO unit, you must register the new drive in Windows Storage Spaces.

1. Open Husky Assistant, and on the **Storage Management** page, click **Set up your storage** to open the **Storage Spaces** page. In Windows you can open the **Settings** page and click **Storage > Manage Storage Spaces**.
2. On the **Manage Storage Spaces** page, select **Change settings** and then select **Add drives** to open the **Select drives to add to the storage pool** page.
3. On the **Select drives to add to the storage pool** page, select the replacement drive you just inserted, and make sure the **Optimize to spread existing data across all drives** check box is selected.

4. Click the **Add drives** button at the bottom of the page.  
The new drive will be displayed on the list of physical drives, along with the failed drive you just physically removed.

### 3. Remove the failed, faulty, or failing disk from the storage pool

After adding the replacement disk to the storage pool, you can remove the failed, faulty, or failing disk from the pool.

1. Open Husky Assistant, and on the **Storage Management** page, click **Set up your storage** to open the **Storage Spaces** page. In Windows you can open the **Settings** page and click **Storage > Manage Storage Spaces**.
2. On the **Manage Storage Spaces** page, locate the disk you want to remove and click **Remove**.

If the **Remove** option is not displayed, it may have been disabled. Click **Change settings** to enable and display the **Remove** option.



If you remove a functioning (non-failing) drive from the storage pool and then re-insert it, the drive will be displayed as having an Unrecognized configuration in the storage spaces overview. You must reset the drive by selecting **Reset** before you can add it to the storage pool again.

### 4. Enable optimized drive usage for the replacement disk

After you have removed the faulty disk from the storage pool, you must optimize the replacement disk to move data to the replacement drive and optimize the capacity of the storage pool if you have not selected the **Optimize to spread existing data across all drives** check box when you added the replacement disk.

If you are unsure if you have selected the **Optimize to spread existing data across all drives** check box when you added the replacement disk, you can optimize the replacement disk again.

1. Open Husky Assistant, and on the **Storage Management** page, click **Set up your storage** to open the **Storage Spaces** page. In Windows you can open the **Settings** page and click **Storage > Manage Storage Spaces**.
2. On the **Manage Storage Spaces** page, locate the replacement disk you want to prepare for operations and click **Optimize drive usage**.



If the **Optimize drive usage** option is not displayed, it may have been disabled. Click **Change settings** to display and then enable the **Optimize drive usage** option.

**For more information, see the following (all external links):**

[Storage Spaces in Windows - Microsoft Support](#)

[Replace Failed Disks and Repair JBODs for Storage Spaces in Windows Server | Microsoft Learn](#)

[Storage Spaces and Storage Spaces Direct health and operational states | Microsoft Learn](#)

[How Storage Spaces Responds to Errors on Physical Disks - TechNet Articles - United States \(English\) - TechNet Wiki \(microsoft.com\)](#)



[helpfeedback@milestone.dk](mailto:helpfeedback@milestone.dk)

#### About Milestone

Milestone Systems is a leading provider of open platform video management software; technology that helps the world see how to ensure safety, protect assets and increase business efficiency. Milestone Systems enables an open platform community that drives collaboration and innovation in the development and use of network video technology, with reliable and scalable solutions that are proven in more than 150,000 sites worldwide. Founded in 1998, Milestone Systems is a stand-alone company in the Canon Group. For more information, visit <https://www.milestonesys.com/>.

