Windows® 10 2019 Enterprise LTSC Upgrade

Microsoft® is ending support for the Windows® 7 operating system. It is recommended that All Ross® Abekas® video servers running this operating system be upgraded to the current Windows® 10 Enterprise Long-Term Servicing Channel (LTSC).

Note: *The upgrade procedure is lengthy and cannot be cancelled once it has started. Ensure you have enough time to perform the upgrade prior to starting.*

Prerequisites

Be sure to collect the following before starting the upgrade.

* Windows® 10 Enterprise LTSC license key purchased from Ross® Video.

   Note: *You must purchase a new Windows® 10 license from Ross Video before you can upgrade your server.*

* A blank USB drive with at least 32GB.

Supported Hardware

Windows® 10 is only supported on servers with the following motherboards.

* ASUS Z97M-PLUS
* ASUS Z97-WS
* ASUS Z170M-PLUS
* ASUS Z170-WS
* ASUS Z270M-PLUS
* ASUS Z270-WS
* SuperMicro X11SSQ-o

To Identify Your Motherboard

1. Open the **Start** menu.
2. Click on **All Programs** > **Accessories** > **System Tools** > **System Information**.
3. Locate the **System Model** line in the list on the left. This is the model of the motherboard used in the server.
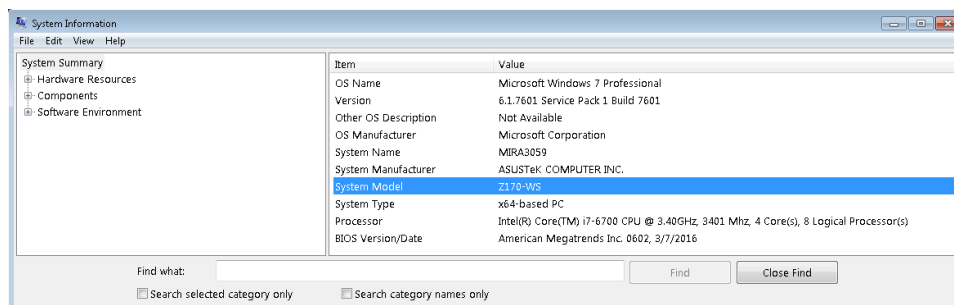
If your motherboard model does not match one of those listed above, contact Ross Video Technical Support.

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Before The Upgrade

Before upgrading the operating system of the server it is important to copy down any settings or additional applications that you currently use. The upgrade sets the new operating system to a default state and re-formats the system drive (C:). All existing data on the drive (not including the media drives) will be lost.

- Existing network setting.
- Addresses of any network drives.
- Any additional software applications that are not part of the main server application (eg TeamViewer).
- Server configuration settings (Mira Config or Tria Config).
- Any files located on the system drive (C:) that you want to keep.

To Create the Upgrade Package

The upgrade files must be downloaded and expanded to create the file set that is to be copied onto the upgrade USB. This includes the Windows® 10 upgrade as well as system files that will be needed for the server once it has been upgraded.

Note: A Windows® PC must be used to create the Upgrade package.

1. Navigate to the following link and download the files to an empty folder on your PC. If you are prompted for a username and password, enter the credentials provided by technical support and click **OK**.

   https://www.rossvideo.com/support/software-downloads/windows-10/

2. Navigate to the folder where you downloaded the files and run the `Unzip Windows.bat` file.

   Note: You will be prompted to choose a location for the extracted files. Note this location as you will need to copy these files to the upgrade USB.
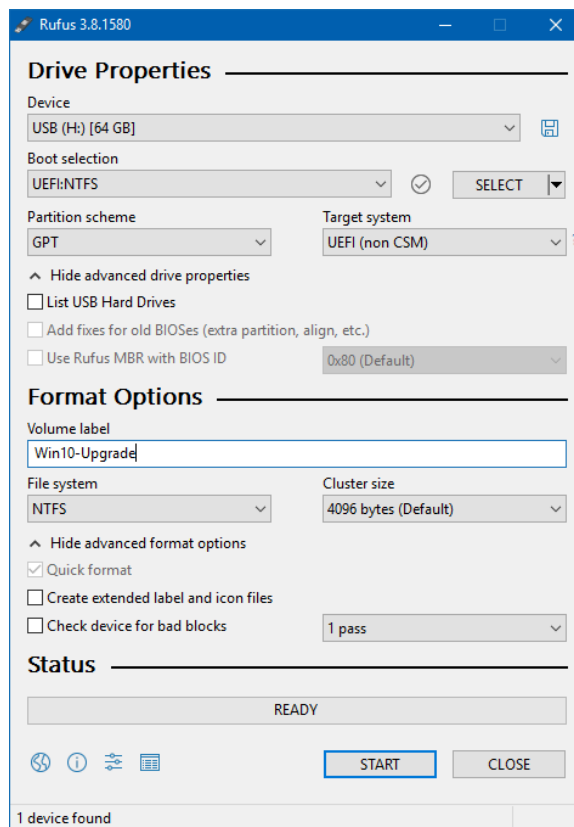
To Create an Upgrade USB

A bootable USB with the new OS launcher is required to upgrade the server.

Note: A Windows® PC must be used to create the Upgrade USB.

1. Insert the USB drive into a USB port on your PC.

2. Open the `rufus-3.8.exe` application that was included in the download files.

3. Click **Show advanced drive properties**. This shows additional options for the Boot selection.

4. From the **Device** list, select the upgrade USB.

5. From the **Boot selection** list, select **UEFI:NTFS**.

6. In the **Volume Name** field, enter `Win10-Upgrade`.

7. Click **Show advanced format options** and select **Quick format**.

8. Click **START** and wait for the format to complete.

9. Navigate to where you extracted the Windows® upgrade files and copy the content of that folder to the upgrade USB.

   The contents of the upgrade USB should look similar to this.

10. Eject the upgrade USB from your PC.

To Remove the Media Drives (Tria Express,Mira Express,Tria News only)

You will need to remove the media drives from the Tria Express, Mira Express, or Tria News servers. The other servers can have the media drives installed during the upgrade.

1. Power off the server and disconnect the power cords from the mains power.

2. Locate the media drives at the front of the server.
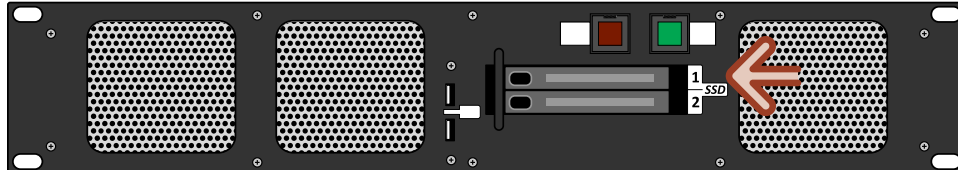
3. Slide the silver tabs on the drive doors to the right to unlock the doors.

4. Pull the bay doors open and remove the drives.

> *ESD Susceptibility:* Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling the server components in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Touch the frame to dissipate static charge before removing boards or drives from the chassis and exercise proper grounding precautions when working on circuit boards.

5. Reconnect the power cords but do not power on the server. The server should be shut down to start the next procedure.

To Upgrade the OS

Booting the server from the upgrade USB will start the upgrade process.

> *Note:* You must have a keyboard and mouse connected directly to the server you are upgrading.

1. Shut down the server.

2. Insert the upgrade USB into a USB port on the server.

3. Power on the server. As it boots up, press the boot options button (see below) a couple times once the **ASUS** or **SuperMicro** logo appears on the screen.

    *   **ASUS** — press **F8**
    *   **SuperMicro** — press **F11**

    The **BOOT DEVICE MENU** will be displayed.

4. Use the arrow keys to select the **UEFI:(NTFS)** drive and press **Enter**. This is the upgrade USB drive that you formatted as UEFI:NTFS. The name/model following UEFI:(NTFS) is unique to the brand and model of USB you used.

5. Follow the on-screen instructions to select your language and location and click **Next**.

6. Click **Install Now** and accept the licence agreement to start the upgrade.

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7. Follow the on-screen instruction using the following selections:

- **Select the operating system you want to install** — select **Windows 10 Enterprise LTSC** for North America or **Windows 10 Enterprise N LTSC** for Europe.
- **Which type of installation you want?** — select **Custom: Install Windows only (advanced)**.
- **Where do you want to install Windows®?** — select each drive in turn and click **Delete** to delete all of the drive partitions. This will result in a single **Drive 0 Unallocated Space** entry in the list. Select the **Drive 0 Unallocated Space** and click **Next**.

   The installation will go through a number of steps shown on-screen and Windows® will restart.

8. When Windows® restarts, follow the onscreen instructions using the following information:

- **Let's start with a region.** — select your country or region and click **Yes**.
- **Want to add a second keyboard layout?** — click **Skip**.
- **Sign in with Microsoft®** — click **Domain join instead**.

   Note: If the server is not connected to a network (**Ethernet Not connected**) click **Skip for now**.

- **Connect now to save time later** — click **No**.
- **Who's going to use this PC?** — enter an name for the default account for the server and click **Next**.
- **Create a super memorable password** — enter a password for the default account, if required, and click **Next**. If you do not want to use a password, just leave the field blank.
- **Do more across devices with activity history** — click **No**.
- **Choose privacy settings for your device** — set all settings to **No** and click **Accept**.
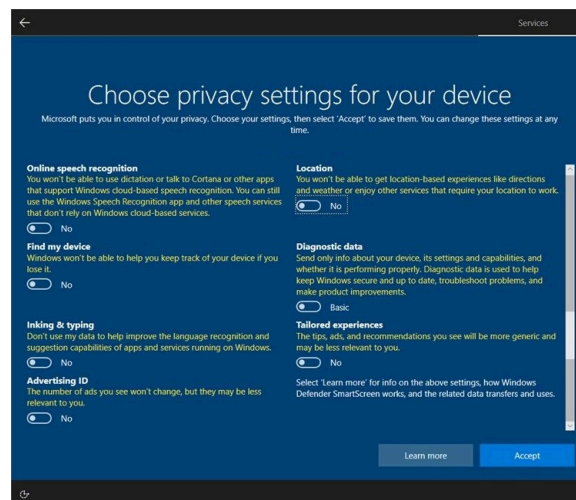
   Windows® 10 will open to the desktop.

9. If did not have an internet connection before, you must set one up at this point. Windows® must connect to the internet to validate the activation key in the next steps.

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10. Right-click on the **Start** ⊞ and click **Settings** > **Update & Security** > **Activation** > **Change product key**.
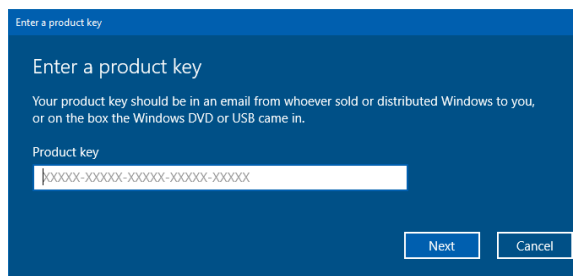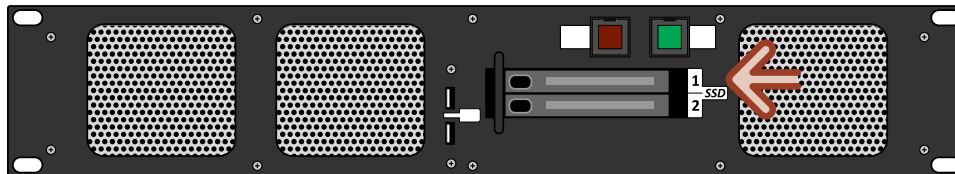

11. Enter the new product key and click **Next**.

To Re-install the Media Drives (Tria Express,Mira Express,Tria News only)

Once the OS has been upgraded, the media drives from the Tria Express, Mira Express, or Tria News servers need to be re-installed.

1. Power off the server and disconnect the power cords from the mains power.
2. Locate the media drives at the front of the server.

3. Slide the silver tabs on the drive doors to the right to unlock the doors.
4. With the connectors facing the server, slide the new drives into the slots in the server.
5. Push the bay doors closed to secure the drives in the server.
6. Reconnect the power cords and power-on the server.

To Install Windows® Drivers

Windows® does not have the drivers needed for the server hardware. These drivers must be installed manually.

1. Right-click on the **Start** ⊞ and click **Device Manager**.
2. Click on **Other devices** to expand the list of devices that drivers need to be installed for.
3. Double-click on the **Multimedia Video Controller**.
4. On the **General** tab, click **Update Driver** > **Browse my computer for driver software**.
5. Click **Browse** and navigate to the `Abekas Drivers` > `CODEC drivers` folder on the upgrade USB.
6. Click **Next** and follow the on-screen instructions.
7. Double-click on the **USB RS-422**.
8. On the **General** tab, click **Update Driver** > **Browse my computer for driver software**.
9. Click **Browse** and navigate to the `Abekas Drivers` > `USB-RS422` > `wlh` > `x64` folder on the upgrade USB, click **Next**, and follow the on-screen instructions.

10. Double-click on the **RAID Controller**.

11. On the **General** tab, click **Update Driver** > **Browse my computer for driver software**.

12. Click **Browse** and navigate to the `Abekas Drivers` > `RAID CARD` > `win10_2016_64bit` folder on the upgrade USB, click **Next**, and follow the onscreen instructions.

13. If there are any other unknown hardware components, double-click on them, click **Update Driver**, select **Search automatically for updated driver software** and follow the onscreen instruction.

To Install the RAID Controller

The RAID controller controls the media drive array.

1. On the upgrade USB, navigate to `Abekas Drivers` > `RAID CARD` > `install_mraid_x64` and open **setup.exe**.

2. Follow the onscreen instructions.

To Set the Computer Name

The computer name identifies the device on the network.

1. Right-click on the **Start** ⊞ and click **System** > **About**.

2. Click **Rename this PC**.
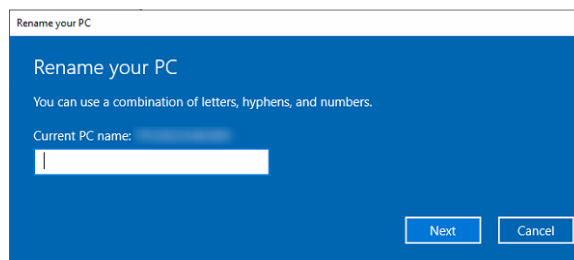
3. Enter the serial number of the server or a designation specified by your IT department.

4. Click **NEXT** and follow the onscreen instructions.

To Update Windows®

Check for Windows® updated to ensure the latest security patches are installed.

1. Right-click on the **Start** ⊞ and click **Settings** > **Update & Security** > **Windows Update**.

2. Click **Check for Updates** and follow the onscreen instructions.

3. Repeat these steps until there are no more updates available.

To Set the Power Settings

The power settings adjust system performance to maximize resource use and prevent the PC from going to sleep.

1. Right-click on the **Start** ⊞ and click **Power Options**.

2. Set **When plugged in, turn off after** to **Never**.

3. Set **When plugged in, PC goes to sleep after** to **Never**.

4. Click **Additional power settings**.

5. Click **Show additional plans**.

6. Select **Ultimate Performance**.

7. Next to Ultimate performance, click **Change plan settings** > **Change advanced power settings**.
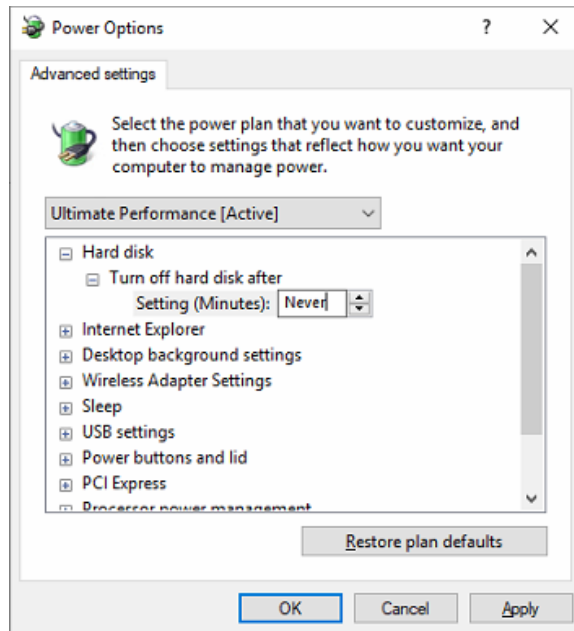

8. Make the following setting changes:
   - **Hard Disk** > **Turn off hard disk after** — set to **Never**
   - **Sleep** > **Sleep after** — set to **Never**
   - **Sleep** > **Allow hybrid sleep** — set to **Off**
   - **Sleep** > **Hibernate after** — set to **Never**
   - **Sleep** > **Allow wake timers** — set to **Disable**
   - **Power buttons and lid** > **Power button action** — set to **Do nothing**
   - **Power buttons and lid** > **Sleep button action** — set to **Do nothing**
   -

9. Click **OK**.

10. Click **Choose what the power buttons do** > **Change settings that are currently unavailable**.

11. Ensure that all the **Shutdown settings** are unselected.

12. Click **Save Changes**.

To Set the Media Drive Letter

The Media Data drive must be set to the expected letter.

1.
Right-click on the **Start** ⊞ and click **Disk Management**.
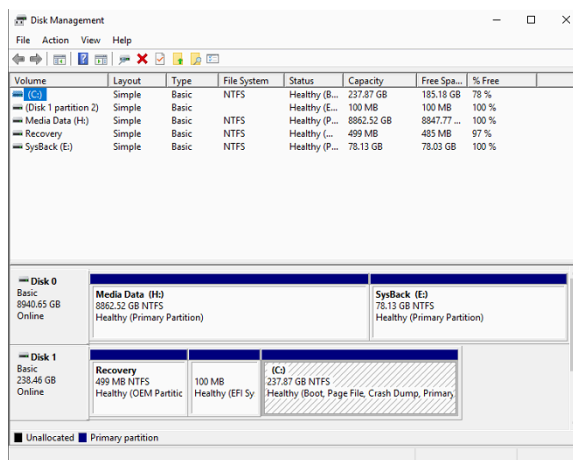
2. Right-click on the **Media Data** volume click **Change Drive Letter and Paths**.

3. Click **Change** > **Assign the following drive letter**.

**4.** Use the drop-down list to select **H** and click **OK**.

> *Tip:* *If you are asked to confirm the change click* **YES**.

5. If you are upgrading a Tria or Mira, right-click on the volume named **SysBack** or **SysImage** and click **Format**.

6. Keep the default settings and click **OK**.

To Update Windows® Group Policy

The group policy needs to be updated to disable automatic updates and Cortana.

1.
Right-click on the **Start** ⊞ and click **Settings**.

2. In the **Find a setting** search field, enter `gpedit` and click **Edit group policy**.

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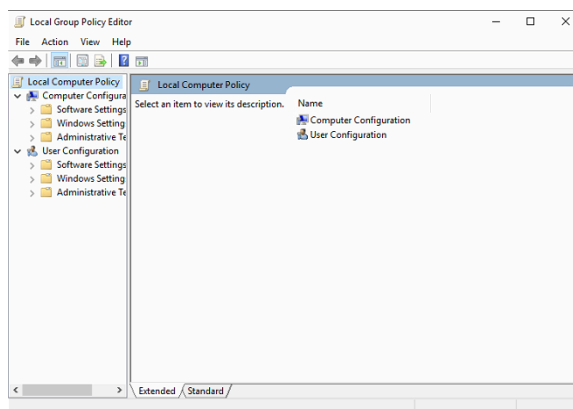
3. Navigate to **Local Computer Policy** > **Computer Configuration** > **Administrative Templates** > **Windows Components** > **Search**.
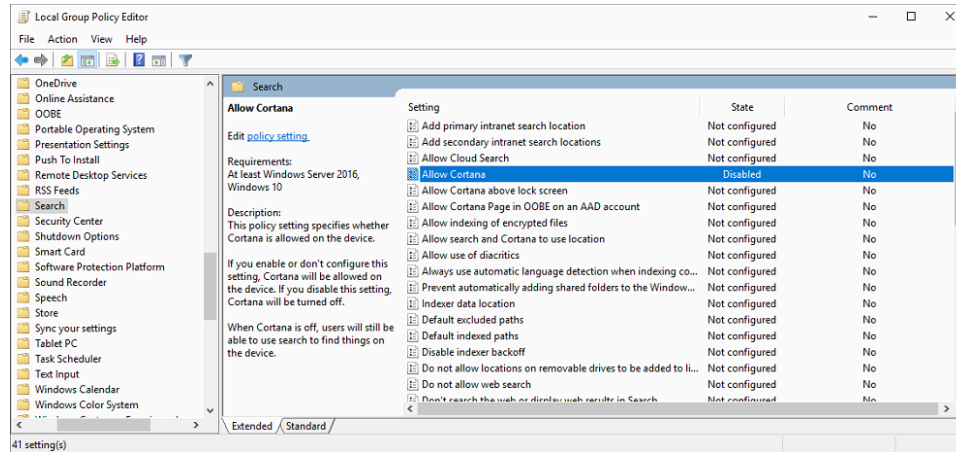
4. Double-click on **Allow Cortana**, select **Disable** and click **OK**.

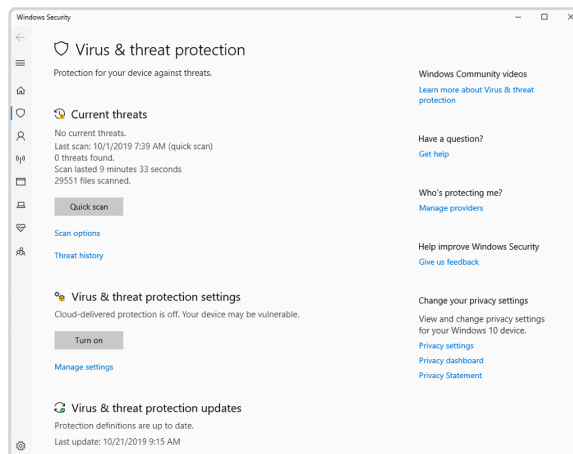5. Scroll down and click on **Windows Update**.
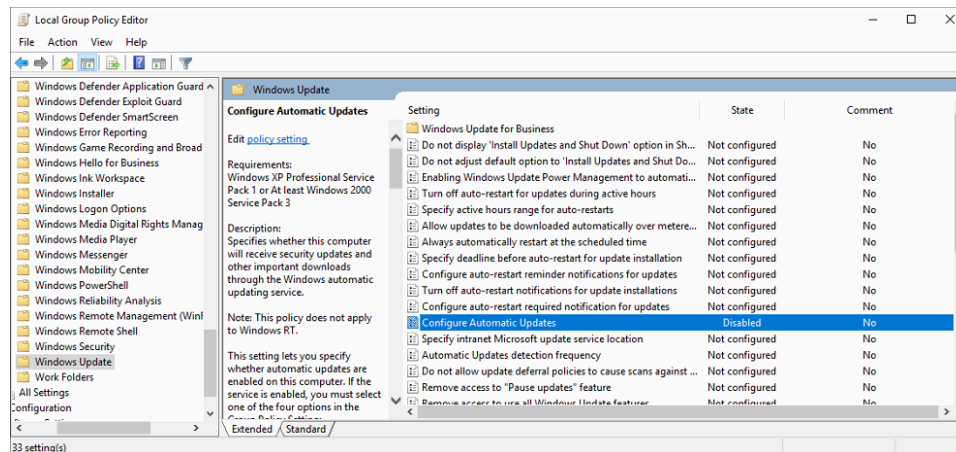
6. Double-click on **Configure Automatic Updates**, select **Disable**, and click **OK**.
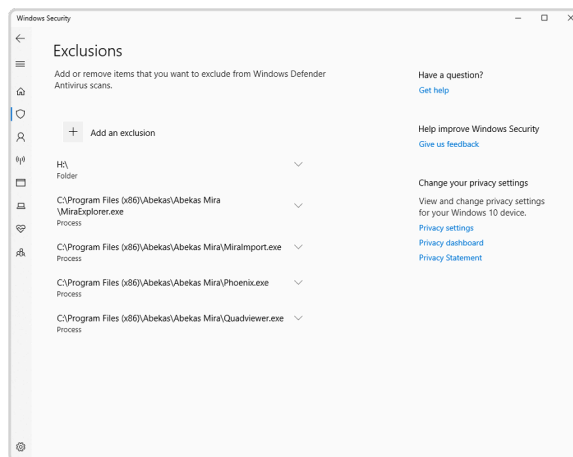
To Update Windows® Defender

Windows® Defender needs to be updated to allow the server applications to run properly.

1.

Right-click on the **Start** ▦ and click **Settings** > **Update & Security** > **Windows Security** > **Virus & threat protection**.

2. Click **Manage Settings** and in the **Exclusions** area click **Add or remove exclusions**.

3. Click **+ Add an exclusion** > **Folder**, enter to `H:\` in the **Folder** field, and click **Select Folder**.

4. Click **+ Add an exclusion** > **Process**, enter the first file path listed below, and click **Add**. Repeat for each path to add them to the exclusion list.

> **Note:** The xxxx in the file path must be replaced with the model of server you are upgrading. For example, `C:\Program Files (x86)\Abekas\Abekas Mira Express\Phoenix.exe` is the path if you have a Mira Express.

> **Tip:** Use **File Explorer** to navigate to the Abekas folder where the files are located. You can then copy the location from the navigation bar and paste it into the exclusion list path.

- C:\Program Files (x86)\Abekas\Abekas *xxxx*\Phoenix.exe
- C:\Program Files (x86)\Abekas\Abekas *xxxx*\Quadviewer.exe
- C:\Program Files (x86)\Abekas\Abekas *xxxx*\Mira Explorer.exe (or Tria Explorer)
- C:\Program Files (x86)\Abekas\Abekas *xxxx*\Mira Import.exe (or Tria Explorer)

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To Install the Server Applications

The Abekas® server applications include Explorer, Import, Config, and all the supporting drivers.

1. Navigate to *https://www.rossvideo.com/support/software-downloads/* and download the latest software package for your server.

2. Copy the file to the server and open it.

3. Follow the onscreen instructions to complete the installation.

To Configure the Server Software

The initial configuration of the server software included setting passwords, assigning channel transports to hardware, and pinning applications to the taskbar.

1. Open the **Tria/Mira Explorer** application.
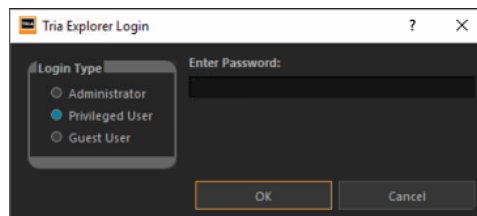
2. In the **Login Type** box select **Administrator** and enter `multiflex` in the **Enter Password** field.

3. Click **OK**.

4. Click **Permissions**.

5. Set the permissions based on the following recommendations.

6. Click **Channels** (does not apply to Mira Express).
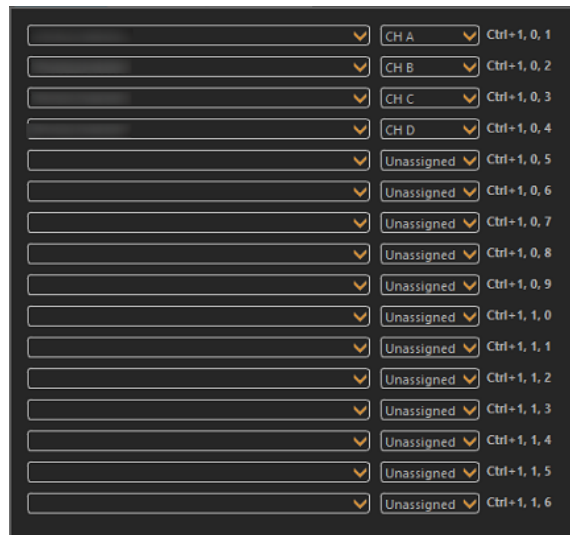
7. On the left side of the window use the drop-down list to select the server that you want to assign a channel transport to. The number of channel transports that are available depends on the server model you have.

8. On the right side of the window use the drop-down list to select the channel transport that you want to assign to the server.

9. Click **Configure** > **General Configuration** > **Passwords**.

10. Delete the entry for the **Privileged User password**.

11. Click **OK**. You are prompted to confirm the password change. Leave the field blank and click **OK**.

Final Cleanup

The final cleanup includes installing TeamViewer, setting the desktop wallpaper, and adding applications to the taskbar.

1. Install TeamViewer.
   a) Point your browser to *https://get.teamviewer.com/2n7wmjj*. Save the download to disk.
   b) Navigate to where you saved the TeamViewer installer and run it.
   c) Follow the onscreen instructions for installing TeamViewer.

2. Set the desktop wallpaper.
   a) On the upgrade USB, navigate to `Abekas Drivers` > `Desktop Background`.
   b) Right-click on the wallpaper for the server you are upgrading.
   c) Click **Set as desktop background**.

3. Add applications to the taskbar.
   a) Click on the **Start** ⊞ and expand the **Abekas** folder.
   b) Right-click on the Mira/Tria Config, point to **More** and click **Pin to taskbar**.
   c) Repeat this procedure for Mira/Tria Explorer and Import.

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Windows Backup and Restore (Mira/Tria only)

Create a backup and restore point to allow recovery from a system failure.

1. Right-click on the **Start** ⊞ and click **Search**.

2. Type `control panel` in the search field and click on the **Control Panel** match.

3. Click **System and Security** > **Backup and Restore (Windows 7)**.

4. Click **Create a system image**. Windows® scans for an existing backup drive.
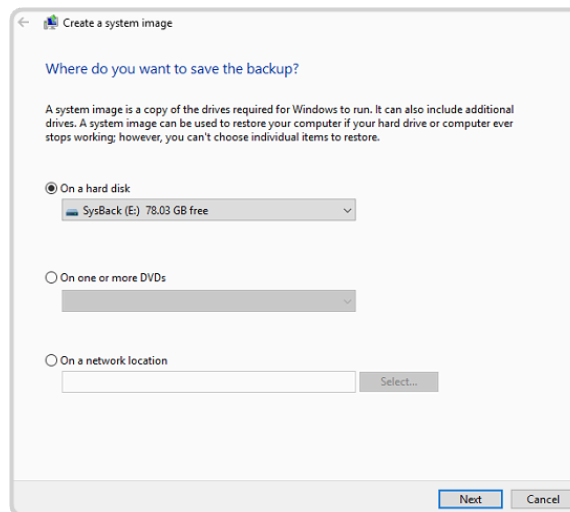
5. From the **On a hard disk** list select **E:/** and click **Next**.

6. Keep the default settings and click **Start Backup**.

7. Wait for the backup to complete.

8. When prompter to **Create a system image**, click **No**.

9. Click **Close**.

10. Right-click on the **Start** ⊞ and click **Disk Management**.

11. Right-click on the **SysImage** or **SysBack** volume and click **Change Drive Letter or Paths**.

12. Click **Remove** and **OK** to remove the drive letter from the backup volume. This prevents the backup volume from being used for server operations.