Toon Boom Harmony 11.1
Installation Guide

Legal Notices

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Contents

Chapter 1: Installing on Windows

This document explains how to install Toon Boom Harmony on Windows.

There are three stages required to install Toon Boom Harmony 11.1, these are covered in the following topics:

1. *Pre-installation* on page 10
2. *Installing Toon Boom Harmony* on page 16
3. *Configuration* on page 21

After completing these stages, you can verify the integrity of the installation and resolve any configuration issues.

- *Troubleshooting* on page 38

Pre-installation

Before installing Toon Boom Harmony, you must perform the following task:

Verifying the Minimum Requirements

For the minimum hardware requirements, visit: toonboom.com/products/harmony-stand-alone/tech-specs.

For the most current Toon Boom Harmony hardware requirements, refer to the *Harmony and Your IT Department* white paper available from:

- Toon Boom Animation Sales Representative
- Toon Boom Animation Support at: support@toonboom.com.

Prerequisites for Harmony Installation

For a fast database connection, it is necessary to set up extra network settings so clients can perform a fast Name Resolution of the server, as well as the server to the clients.

Obtaining the Product Activation Code

You should obtain a product activation code from the Toon Boom licensor, so you can finish the installation process without having to wait for the activation code to arrive.

To obtain a Harmony 11.1 activation code, send the following information to: licensor@toonboom.com.

- Your name and the name of your company
- Email address where to send the license file

Additional Network Settings

You should edit the **`hosts`** file only if there are problems or slowness when a computer is resolving names. **DO NOT** edit the **`hosts`** file unless there are problems resolving names on the network.

How to edit the hosts file

1. Set up the server and clients' IP with a static (fixed) IP address.
2. Go to C:\WINDOWS\system32\drivers\etc\ folder and open the **hosts** file using a plain text editor.
3. Go to the end of the file, on a new line add the static IP address and the machine name accordingly. If you are using a domain, you need to use the fully qualified domain name (**FQDN**).

   For example, if the server name is **server.toonboom.com** in the domain and the IP address of the server is **192.168.1.1**, the line should be:

   ```
   192.168.1.1 server.toonboom.com
   ```

4. Add the rest of the client's IP and hostname on a new line and click **Save**.
5. Copy and paste the **hosts** file to all the machines including the server under the **C:\WINDOWS\system32\drivers\etc** folder.

Windows 2008 Server

For a Windows 2008 server, you need to perform some additional steps to complete the task.

If you have a domain, you need to add a **usabatch** user on the global group where all the Harmony users are. This user should have administrator account rights.

- The user name is **usabatch**
- The password is **usabatch**

If an error due to the password policy occurs, you can change the password policies for both the Domain Controller Security Policy and Domain Security Policy. You also need to do this from the Domain server if it is different from the Harmony database server.

1. From the Windows Start menu, select **Control Panel**.
2. In Control Panel, double-click on **Administrative Tools**.
3. In Administrative Tools, select **Group Policy Management**.
4. In the hierarchy view of the **Group Policy Management**, go into the Domain used by Harmony, right-click on **Default Domain Policy** and select **Edit**.
5. In the hierarchy view of the **Group Policy Management Editor** window, go in **Computer Configuration** > **Policies** > **Windows Settings** > **Security Settings** > **Account Policies** > **Password Policy**.
6. On the right side of the **Group Policy Management Editor** window, double-click on **Password must meet complexity requirements**.
7. Select the **Define this policy setting** and **Disabled** options.
8. Click **OK**.

   Wait for the changes to take effect or restart the Server. It can take several minutes for the domain controller to update and use the new settings.

   Once this is done, you can create the **usabatch** user, which should be inside the Harmony user group.

Pre-installation Configuration

Before installation, configure your computer by performing the following tasks:

Inform your System Administrator before proceeding with these tasks.

Turning off Anti-Virus Software

Inform your System Administrator before proceeding with this task.

How to turn off your anti-virus software

1. From the Start menu, select **Settings > Control Panel**.
   Vista Users: Click the **Start** menu and select **Control Panel**.
   The Control Panel opens.
2. In the Control Panel window, double-click on the **Security Center** icon  .
   Vista Users: Turn off **Malware Protection**.
   The Windows Security Center dialog box opens.

3. If your anti-virus software is not detected, open all anti-virus software applications on your computer and disable each one manually.

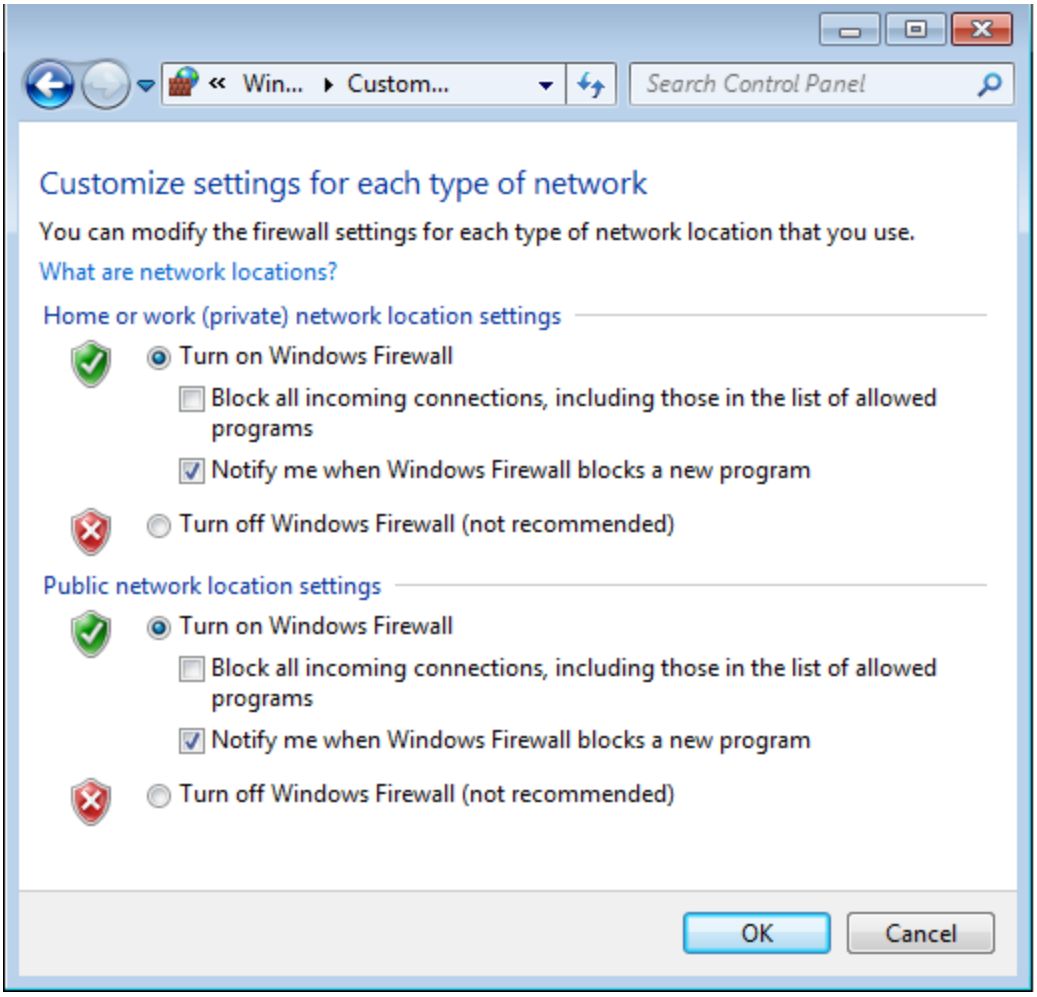
Turning Off the Firewall

Inform your System Administrator before proceeding with this task.

How to turn off the Windows firewall

1. From the Start menu, select **Control Panel**.
2. Double-click on the **Windows Firewall** icon.
3. In the Windows Firewall window, click **Turn Windows Firewall On or Off** on the left side of the window.

   The Customize Settings for Each Type of Network dialog box displays.



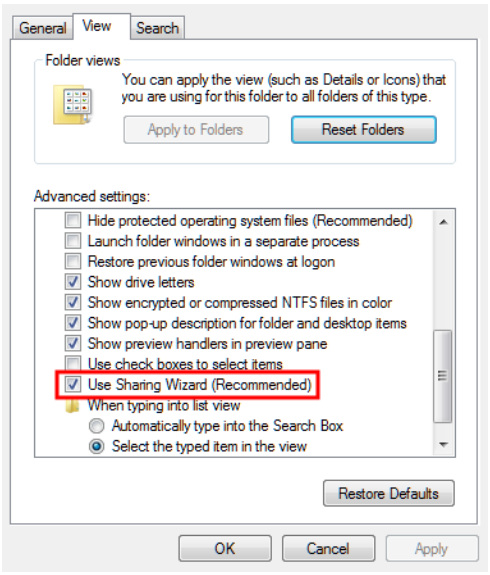
4. Select the **Turn off Windows Firewall** option for both private and public network locations.
5. Click **OK**.

Turning Off Use Simple File Sharing

How to turn off simple file sharing

1. From the Start menu, select **Computer**.
2. From the Organize menu, select **Folder and Search Options**.

   The Folder Options dialog box opens.
3. In the View tab, deselect the **Use Sharing Wizard (Recommended)** option.


General
View
Search
Folder views
You can apply the view (such as Details or Icons) that you are using for this folder to all folders of this type.
Apply to Folders
Reset Folders
Advanced settings:
Hide protected operating system files (Recommended)
Launch folder windows in a separate process
Restore previous folder windows at logon
Show drive letters
Show encrypted or compressed NTFS files in color
Show pop-up description for folder and desktop items
Show preview handlers in preview pane
Use check boxes to select items
Use Sharing Wizard (Recommended)
When typing into list view
Automatically type into the Search Box
Select the typed item in the view
Restore Defaults
OK
Cancel
Apply

Installing Toon Boom Harmony

Now that you have verified your minimum requirements and configured your hardware and software, you are ready to install Toon Boom Harmony.

You will perform the following tasks:

1. *Upgrading from a Previous Installation* on page 16
2. *Installing Toon Boom Harmony* on page 19

Upgrading from a Previous Installation

If you are not upgrading from a previous installation of Toon Boom Harmony, go to *Installing Toon Boom Harmony* on page 19.

If you are performing an upgrade, pick a time when Toon Boom Harmony production is slow or stopped. During the upgrade, no users can run any of the Toon Boom Harmony modules and all rendering jobs must be stopped or completed.

Before you can update a previous installation of Toon Boom Harmony, you must stop all services, including:

- The database server
- Batch processing
- The license server

Stopping Services Affecting Harmony

How to stop all services affecting Toon Boom Harmony

1. Make sure that no one is running Toon Boom Harmony. All Toon Boom Harmony modules must be closed on the server and on all the clients.
2. Make sure that all batch rendering or vectorizing is complete or that the queues are empty. In the Control Center module, use the Queue menu to open the Vectorize and Render Queue for all environments. The queues should be empty or the status of all jobs should be "Completed".

   Upgrading from version 7.2 or earlier:

   - From the Start menu, select **All Programs > Toon Boom Harmony (or Opus) > Configuration Tools > usa_cfg**.

     The USAnimation Properties window opens.

   Upgrading from a previous version of 7.3:

   - From the Start menu, select **All Programs > Toon Boom Animation > Toon Boom Harmony > Tools > Harmony Control Panel**.

     The Harmony Properties window opens.

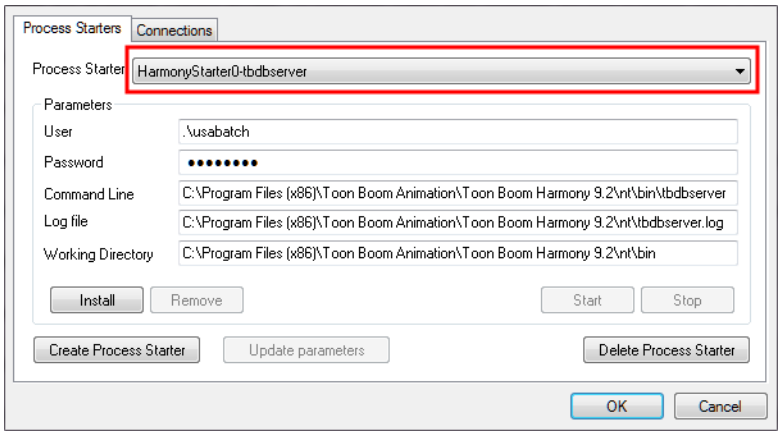
   Upgrading from versions 7.8, 9.2 or a previous version of 10:

   - From the Start menu, select **All Programs > Toon Boom Harmony > Tools > Control Panel**.

     The Harmony Control Panel dialog box opens.

3. From the Process Start menu, select **Stop**. Do this for every Toon Boom Harmony-related process running on the machine.

   You can also stop **`tbdbserver`** on the server and **`tbprocess`** on workstations that are set as a batch render.



4. Turn off all the client machines and the render farm.

Stopping the License Server

How to stop the license server

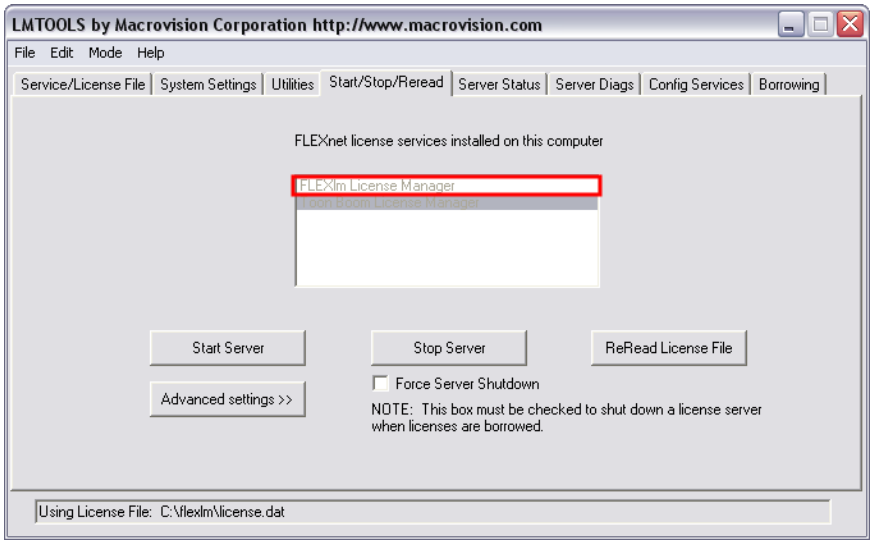
1. On the License server computer, from the Start menu, select **All Programs > Harmony > Configuration Tools > FLEXlm - lmtools**.

   The LMTOOLS window opens.

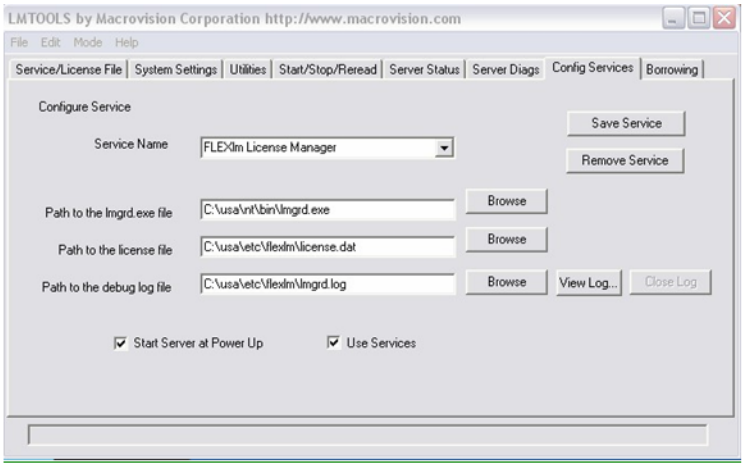
   Upgrading from version 7.3: Click the Start menu and select **All Programs > Toon Boom Animation > Harmony > Tools > Flexlm Tools**.

   Upgrading from version 7.8: Click the Start menu and select **All Programs > Toon Boom Harmony 7.8 > License Tools > Flexlm Tools**.

2. In the Start/Stop/Reread tab, select the license server from the **FLEXnet license services installed on this computer** list.



3. Click **Stop Server**.
4. In the Config Services tab, click **Remove Service** to remove the license service.



5. Close the LMTOOLS window.

Removing Harmony Related Environment Variables

To complete the installation, you need to remove some environment variables set by the previous installation.

Please do this with caution.

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1. Click the **Start** menu and select **Control Panel**.
   The Control Panel opens.
2. Double-click on System and select the **Advanced system settings** link in the left panel.
3. In the **Advanced** tab, click **Environment Variables**.
4. In the **System Variables** panel, select **`LM_LICENSE_FILE`** if it is listed, and then click **Delete** button to delete **`LM_LICENSE_FILE`**.
5. Delete any of the following variables if they appear in the **System** or **User variables** lists: **`TOONBOOM_LICENSE_FILE, USADB, USADIR or USAROOT`**.

Backing Up Configuration Files

You also need to back up any necessary configuration files from the machine in case you want to reuse them. You can also back up the **`license.dat`** file as well.

How to back up any necessary configuration files

1. Do one of the following:
   - Version 7.8: Go to **\Program Files (x86)\Toon Boom Animation\Harmony 7.8\etc.**
   - Version 7.3: Go to **\Program Files (x86)\Toon Boom Animation\Harmony\etc**.
   - Versions 7.2 and earlier: Go to the **`\usa\etc`** folder.

2. Back up any of the following configuration files:
   - **`Scan.conf`** if this workstation is to be configured as a scanning station.
   - **`VectOptions.conf`** on any machine (including the server) that is doing batch vectorization.
   - Any other **`.conf`** file that is required to be used later.

You can back up the entire **`/usa`** or **`harmony`** folder to ensure all configuration file are backed up.

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3. Go to the**`/usa/etc/flexlm`** folder and back up the **`license.dat`** file.

Uninstalling the Previous Version of Toon Boom Harmony or Opus

Now you will uninstall the previous version of Harmony or Opus.

How to uninstall the previous version of Harmony or Opus.

1. From the Start menu, select **Control Panel**.
   The Control Panel opens.
2. Double-click on **Program and Features** and select Harmony or Opus.
3. From the top menu, click **Uninstall**.
4. Reboot the machine.
5. Back up the database. For the server upgrading process, back up the database by exporting the entire database. This will prevent you from losing any data during the upgrading process. You can, however, back up the current **`/usa_db`** and **`/usadata`** by renaming them (this procedure can only be used when installing on the same server). This requires extra caution. If you are at all unsure, contact your system administrator or Toon Boom Support.

Installing Toon Boom Harmony

How to run the installation script

1. Download the build of Harmony that you are going to install.
2. Double-click on the Harmony **InstallShield** executable.
3. Select the language for the installer and click **OK**. This will only affect the language of the installer, not the Harmony software.
4. In the InstallShield Welcome window, click **Next** to continue with the installation.
   The License Agreement dialog box opens.
5. Read the license agreement and decide if you accept its terms.
   - If you accept the terms in the license agreement, select **I accept the terms in the license agreement** and click **Next**.
   - If you do not accept the terms in the license agreement, click **I do not accept the terms in the license agreement** and then click **Next**.

The installation will stop immediately and Toon Boom Harmony will not be installed on your computer.

The Destination Folder dialog box appears. You can click **Cancel** to interrupt the installation and then click **Yes** to stop the installation completely.

You can install Toon Boom Harmony to any location. This document assumes that the installation will be done at the default location.

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6. Select the drive on which you want to install Toon Boom Harmony and click **Next**.

   The Setup Type dialog box appears.

7. Select the type of installation you want to do. Select the **Complete** option to install all the Harmony Network components.
   When installing a server, it is possible to do a custom install and install only the server component. However, it is recommended to always do a full install as this will give you access to all the applications from the server if need be.

8. Click **Next.**

   The Ready to Install the Program dialog appears.

9. Click **Install** again to begin the installation.

10. When this process is complete, click **Finish**.

Configuration

After installing Toon Boom Harmony, you need to configure the database parameters depending on your machine's setup and third-party software, and restart your anti-virus settings.

1. *Configuring Toon Boom Harmony* on page 21
2. *Sharing Toon Boom Harmony Related Directories* on page 26
3. *Configuring the License* on page 28
4. *Turning on the Anti-Virus Software* on page 34

Configuring Toon Boom Harmony

You can use the Toon Boom Harmony Installation Wizard at any time to:

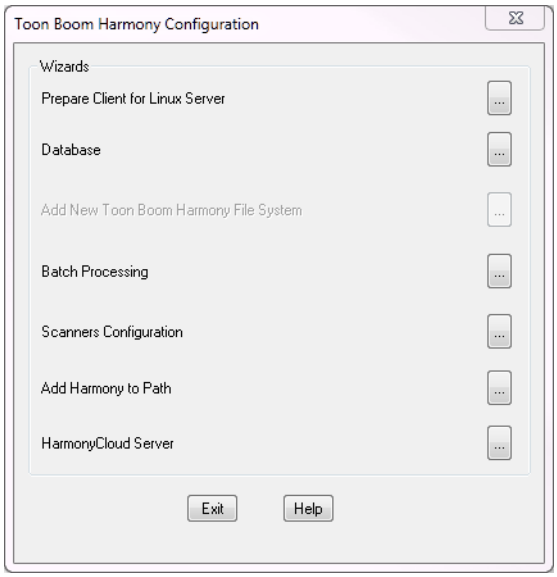
- Modify the Toon Boom Harmony server or client configuration
- Configure batch processing
- Configure scanners
- Prepare a client to be the client of a Linux server
- Add Harmony's path to the **Path** environment variable

After installation, you must set up the database configuration for computers running Toon Boom Harmony.

1. *Setting Up the Database Server* on page 22
2. *Setting Up the Database Client* on page 25

How to open the Toon Boom Harmony Configuration Wizard

1. From the Start menu, select **All Programs > Harmony 11.1> Tools > Configuration Wizard**.
   The Toon Boom Harmony Configuration dialog box opens.

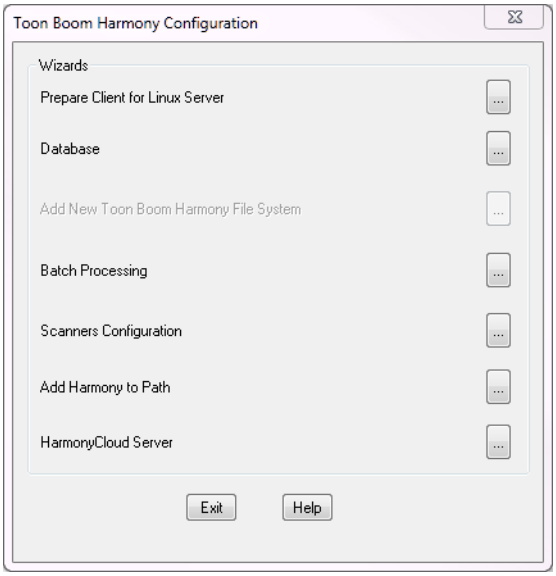


Setting Up the Database Server

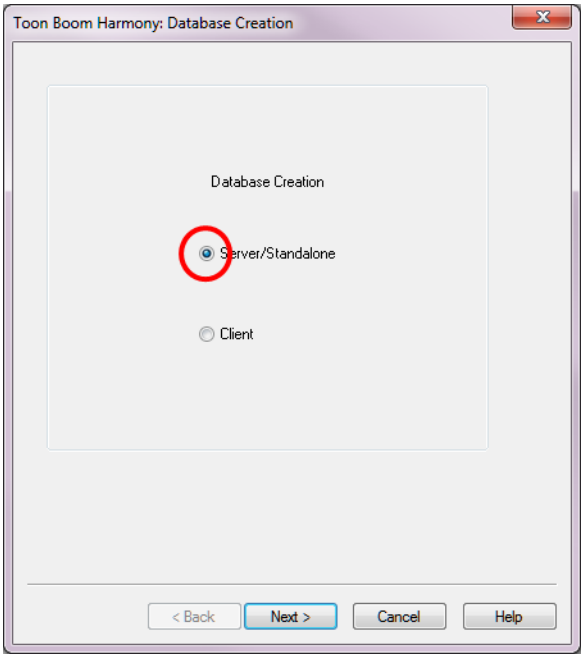
The Database Server controls all interactions with the contents of the Toon Boom Harmony database. It processes all requests to open, read or update files, keeping track of files that are locked so others cannot edit them.

How to set up the Database Server

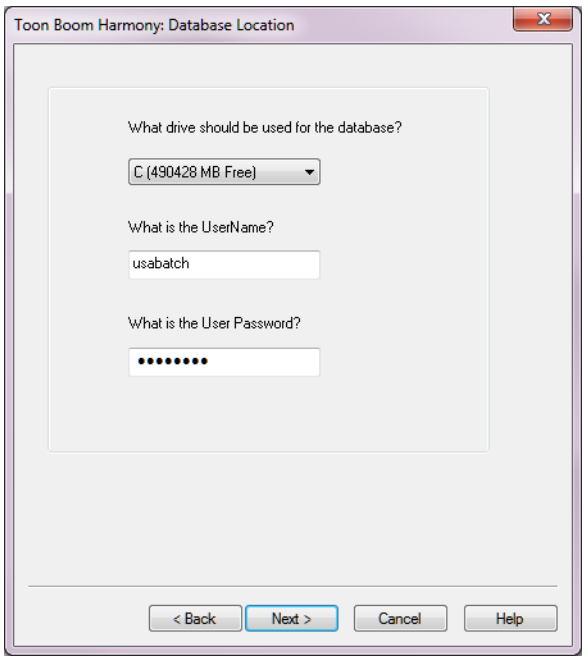
1. In the Toon Boom Harmony Configuration dialog box, click the **Database** button.



2. Select the **Server/Standalone** option and click **Next**.



3. Select the location of the database from the drop-list and set a username and password for the user who will be running the database services.
   The default account is **`usabatch`**. If the account specified does not exist, it will be created by the wizard.

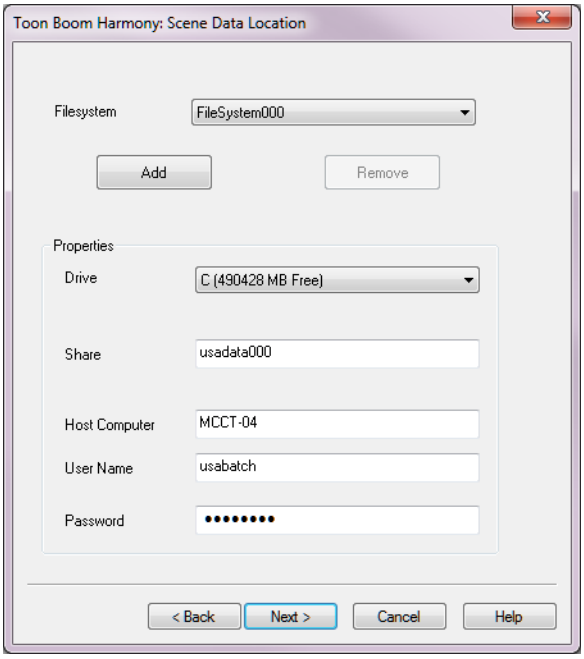


Make sure to take note of the account name and password if an account other than the default one is used. This information will be required later on for client workstations to connect to the server.

4. Click **Next**.
   The configuration program creates the **USA_DB** database in the location you specified. The **USA_DB** database tracks the location of the scene data on the file system. You can have multiple file systems, but only one **USA_DB**.

If you are upgrading from a previous version of Harmony or Opus and you have renamed **USA_DB** for backup, you need to create new **USA_DB** at the same location where the previous **USA_DB** was located.

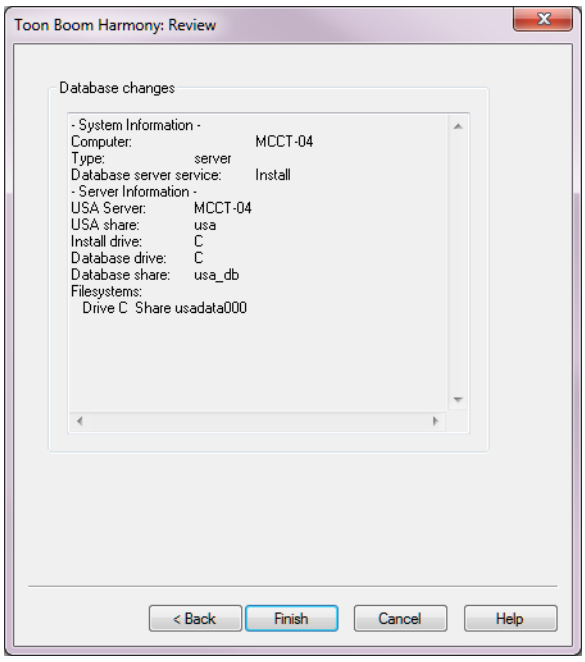
5. In the Scene Data Location window, create the storage locations for the database.



- **Filesystem**: Select the file system you want to add. The first File system is already created for you. If you want to create additional file systems to, for example, store scene data across multiple drives or computers, click **Add**.
- **Drive**: Select the drive on which you want to create the file system.
- **Share**: In this field is the name of the file system that will be created. You can change this value. However, it is recommended to leave the default name, which increments from **`usadata000`**.
- **Host Computer**: Enter the name of the computer on which this file system will be created. By default, the current computer's name appears here. You can create file systems on other computers if necessary.
- **User Name and Password**: Specify the user name and password that will be used to connect to the file system. It is recommended to use the same user name and password as the one used for the database.

6. Click **Next**.

   The Toon Boom Harmony: Review window opens.



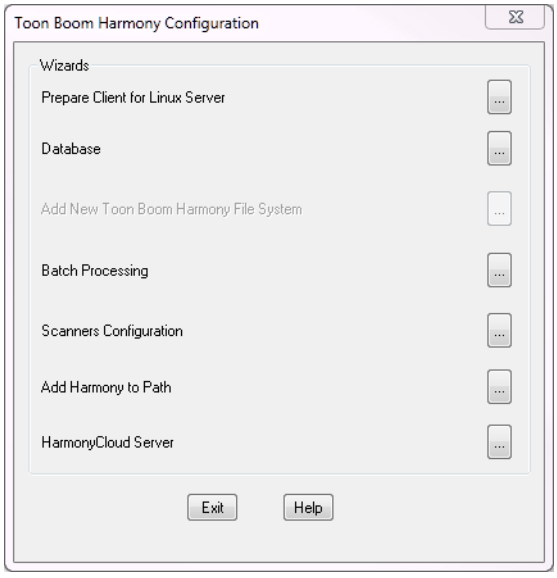
7. Review the information in the window. If it is correct, click **Finish**.

Setting Up the Database Client

After you have configured your server, you can configure all the client machines that will connect to the server. Use the Toon Boom Harmony Configuration Wizard to connect client computers to the database.

How to set up the Database client

1. In the Toon Boom Harmony Configuration dialog box, click the **Database** button.



2. In the Database Creation window, select the **Client** option and click **Next**.
3. In the Server Name window, enter the name of the Toon Boom Harmony server and click **Next**.
4. In the Review window, verify the database changes and click **Finish**.

A message appears when the client computer is successfully connected to the database server.

It is possible to change the user account used to connect to **USA_DB** or the different file systems using the Toon Boom Control Panel, which you can start from **Start > Programs > Harmony 11.1 > Tools > Control Panel**.

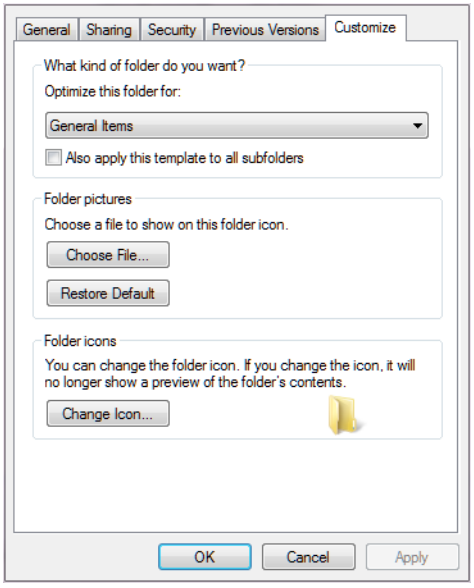
Sharing Toon Boom Harmony Related Directories

Sharing Toon Boom Harmony related directories does not need to be done in a typical installation. This is required only when the shares were not created correctly during server configuration. For example, this can happen when simple file sharing was not turned off before running the Configuration Wizard on the server. Or when you have backed up the **usadb** and **usadata** folders before installation, you may have to share them when putting them back into place.

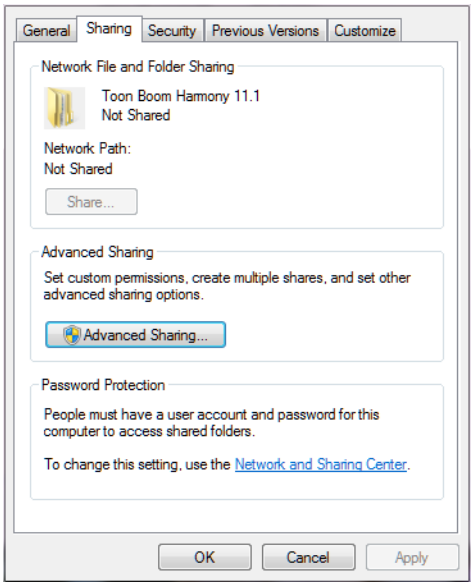
If you are upgrading from a previous version and you have changed the **USA_DB** and **USADATA** name during upgrade, make sure to return to the normal names before continuing.

How to activate file sharing for the Toon Boom Harmony folder

1. Open Windows Explorer.
2. Locate the following folder: **C:\Program Files (x86)\Toon Boom Animation\Harmony 11.1**.
3. Right-click on the **Harmony 11.1** folder and select **Properties**.



4. Select the **Sharing** tab.



5. Select the **Share this folder** option.
6. Click **Advanced Sharing.**
7. In the Share Name field, type **usa**.

Changing the name of the share to **usa** must only be done when sharing the **Harmony** folder. The **USA_DB** and **USADATA** folders should keep their original name.

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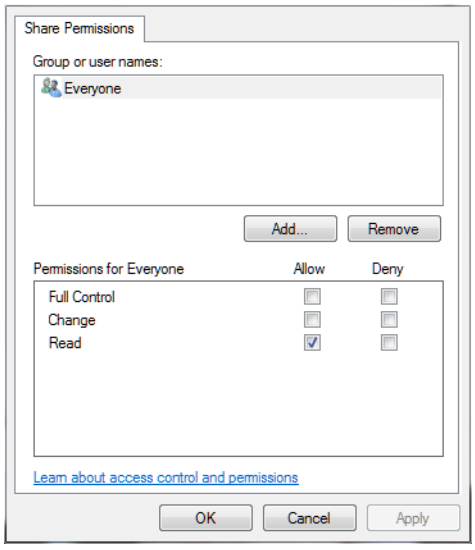
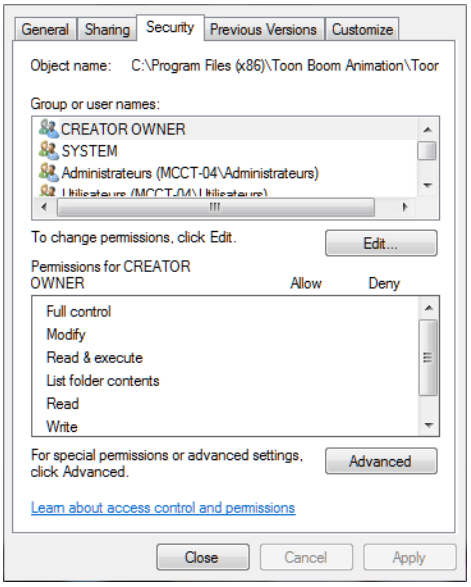
8. Click **Permissions**.

   The Permissions dialog box displays.



9. Set all permissions in the Everyone group to **Allow** and click **OK**.
10. Back in the File Properties window, select the **Security** tab.



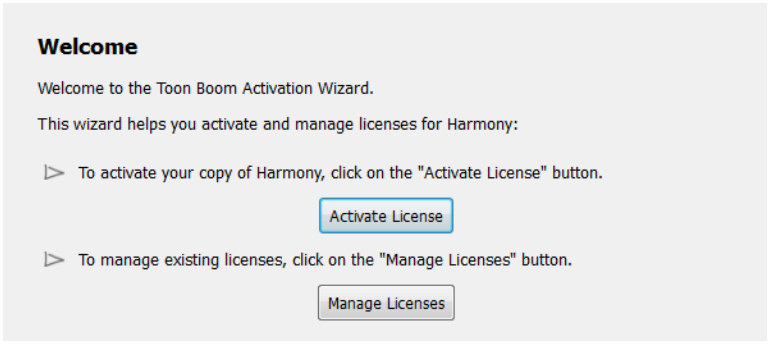
11. Click **Edit** to prompt the permissions window. Set all permissions in each group or user to all.
12. Click **OK**.
13. Repeat steps 3 to 10 with the **`USA_DB`** and **`USADATA`** folders.

Configuring the License

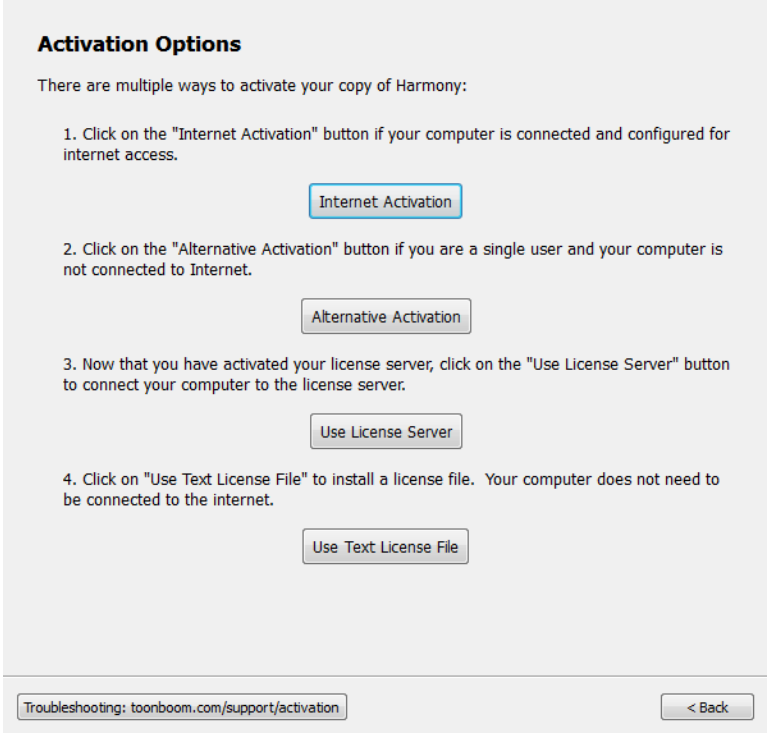
How to configuring the license server

1. From the Start menu, select **All Programs > Harmony 11.1 > License Tools > LicenseWizard**.

   Depending on how the License Wizard was started, the first page of the License Wizard will be as following:

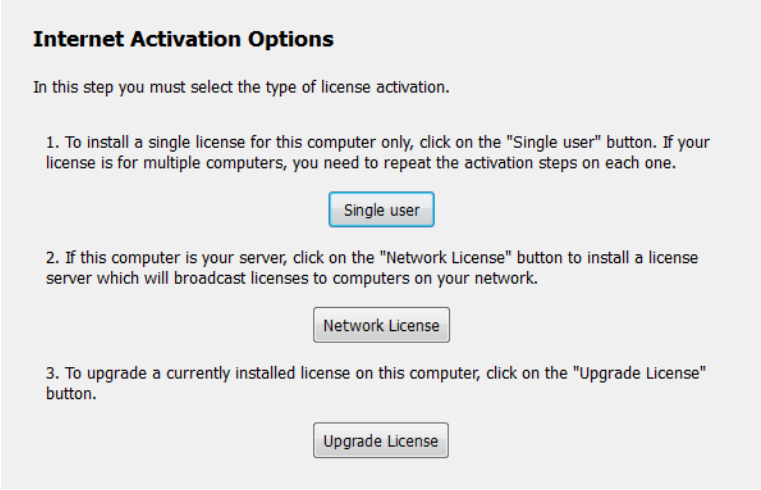


   Click **Activate License** to open the Activation Options screen.



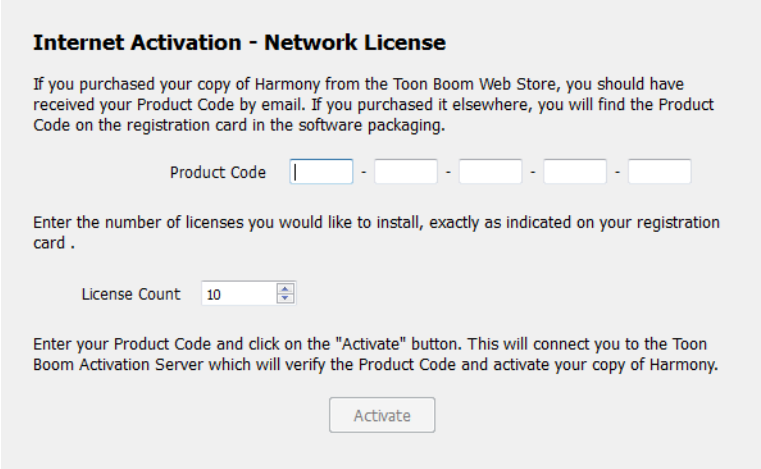
2. Click **Internet Activation.**

   The Internet Activation Options screen appears.



3. Click **Network License.**

   The Internet Activation - Network License screen appears.



4. Type or copy/paste the product code and type in the number of licenses this product code grants you.

Once activated, a server license cannot be returned to the activation server. Make sure you are activating the license on the correct computer with the proper license count.

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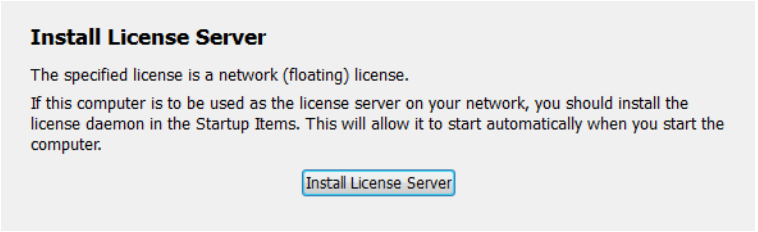
5. Click **Next**.

   The Install License Server screen appears.



6. Click **Install License Server**.

   The **`license.dat`** file is created and placed in **/usr/local/flexlm/licenses/license.dat.** The **`license.dat`** file contains the following information:

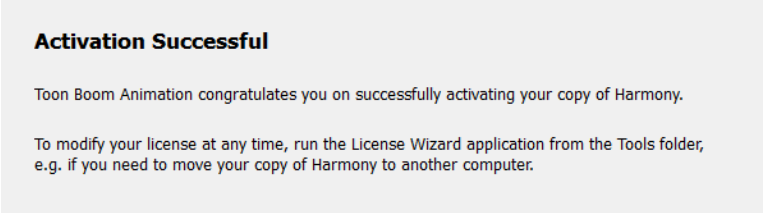
   SERVER this_host 0 ANY

   VENDOR toonboom

   USE_SERVER

   It will also configure and start the License Server service.

   The Activation Successful screen appears.

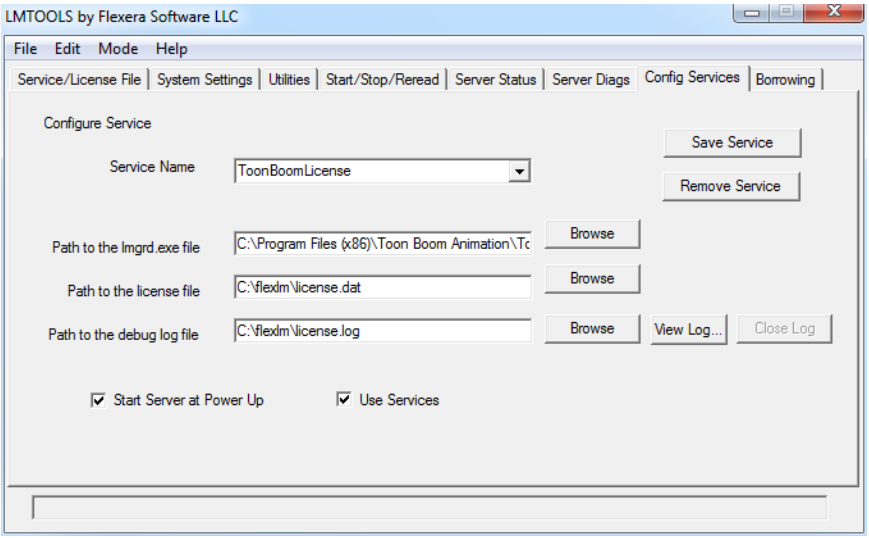


7. Click **Finish** to exit the wizard.
8. Look at the **`lmgrd.log`** to make sure it was started properly.

   `C:\flexlm\lmgrd.log`

9. From the Start menu, select **All Programs > Toon Boom Harmony 11.1> License Tools > FlexLM Tools** and verify that the license server has been configured properly and that it is running.

   Below are the default parameters for the license service.



10. It is good practice to verify that the license service it properly running by going in the Server Status tab and clicking **Perform Status Enquiry**.

Restoring Backed Up Data

How to restore backed up data

1. Open the **Toon Boom Harmony Control Panel** and select **`HarmonyStart0-tbdbserver`** from the Process Starter menu and click **Stop**.
2. Press **Ctrl + Alt + Delete** to open the Task Manager. Select the **Processes** tab and verify that the tbdbserver is no longer there.
3. Open the File Explorer and rename the new empty **`USA_DB`** database folder to **`USA_DB_NEW`** .
4. Rename the **`USA_DB_BAK`** (the one that was backed up earlier) to **`USA_DB`** to restore the previous database.
5. Copy the **dicts** files from the new database (**`USA_DB_NEW/dicts`**) to the one you restored (**`USA_DB/dicts`**).

Dicts files can also be copied from **C:\Program Files\Toon Boom Animation x86)\Harmony_11.1\etc\USADB_templates\dicts**

6. Share the **USA_DB** folder giving full control every one. Make sure that simple file sharing is turned off before doing this.

   If you cannot set permissions per use for the share, it means that simple file sharing is turned on.
7. Rename the new empty **usadata000** folder (and any other file system folder) to **usadata000_NEW**.
8. Share the **usadata000** folder (and any other folder you have restored) giving full control to everyone.
9. Start the **tbdbserver** by opening the **Toon Boom Harmony** Control Panel. Select **HarmonyStart0-tbdbserver** from the list and click **Start**. After starting the **tbdbserver**, look at the **tbdbserver.log** to make sure it was started properly.

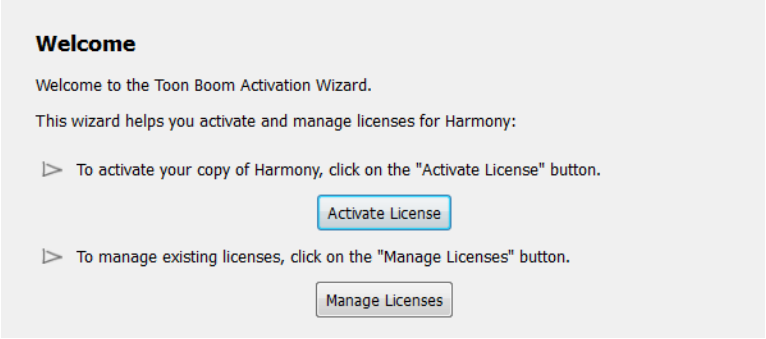
   C:\ProgramData\Toon Boom Animation\Toon Boom Harmony
10. Verify that you can open Harmony and scenes from the server.

Setting Up the License on Client Workstations

An Admin account is required to set this up. After activation, you can log in as client.

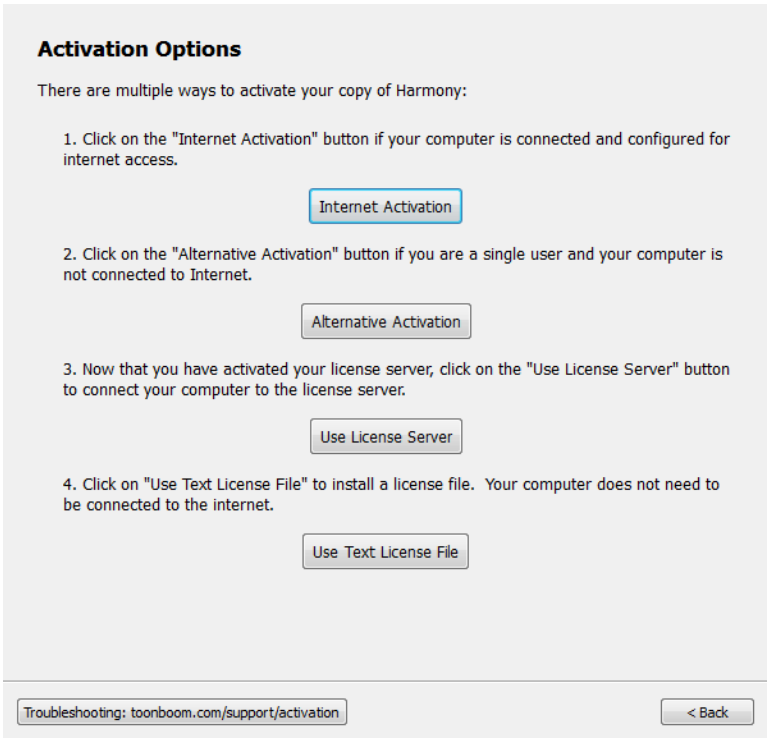
How to set up the license on a client workstation

1. Open the License Wizard on the Client machine.



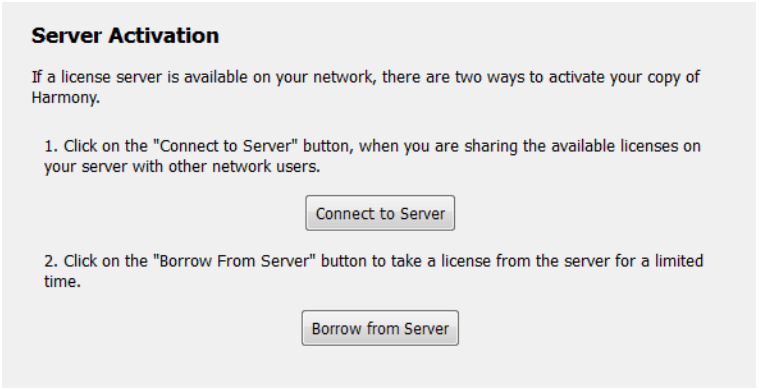
2. Click **Activate License**.

   The Activation Options screen appears.



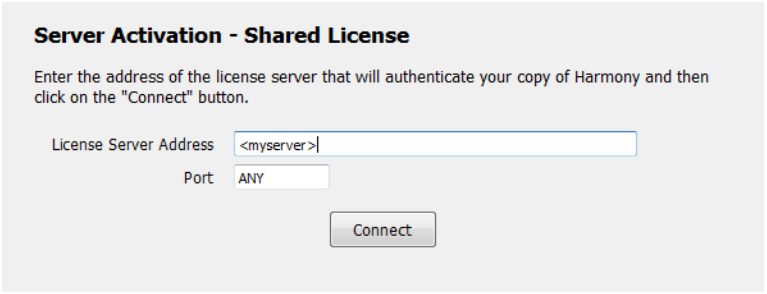
3. Click **Use License Server**.

   The Server Activation screen appears.



4. Click **Connectto Server**.

   The Server Activation - Shared License dialog appears.



5. In the License Server Address field, enter the **hostname** or the **IP Address**.

6. Click **Connect**.

   You are prompted for a password.
7. Enter the password and click **OK**.
8. Click **Finish** to close the License Wizard.

Turning on the Anti-Virus Software

Inform your System Administrator before turning your anti-virus software back on.

How to turn the anti-virus software back on

1. Reactivate virus protection. If your anti-virus software is not detected, open any anti-virus software applications on your computer and reactivate each one manually.

Turning on the Firewall

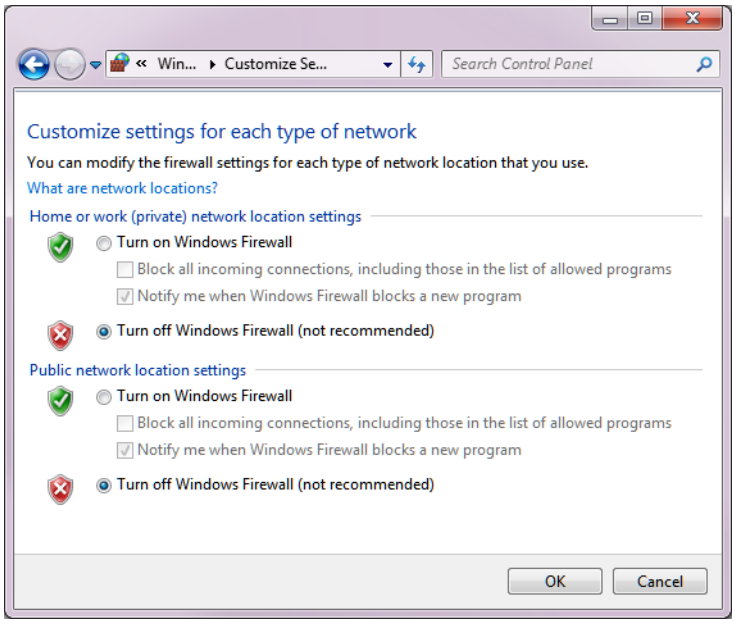
The process to do this is basically the reverse of the procedure used to deactivate the firewall.

Inform your System Administrator before proceeding with this task.

How to turn on the firewall

1. From the Start menu, select **Control Panel**.
2. Double-click on the **Windows Firewall** icon.
3. In the Windows Firewall window, click **Turn Windows Firewall On or Off** on the left side of the window.

   The Customize Settings for Each Type of Network dialog box displays.

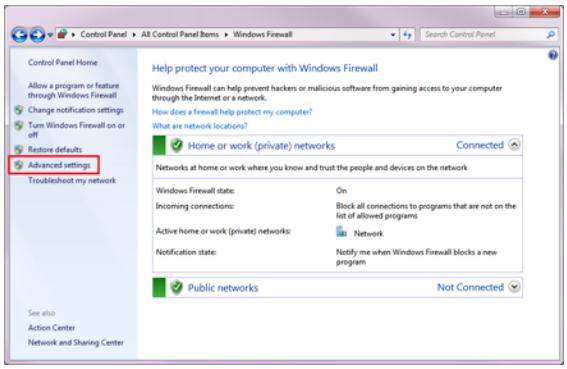


4. Select the **Turn on Windows Firewall** option.
5. Click **OK**.

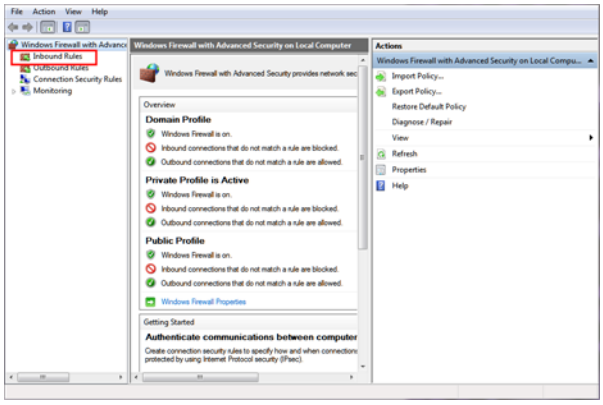
Creating Inbound Rules

How to create inbound rules

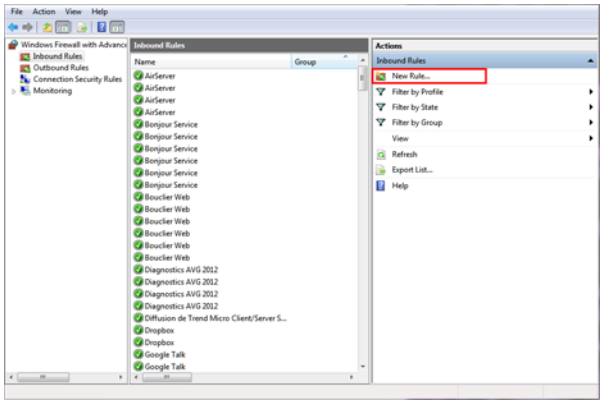
1. Back in the Windows Firewall window, click the **Advanced Settings** link.



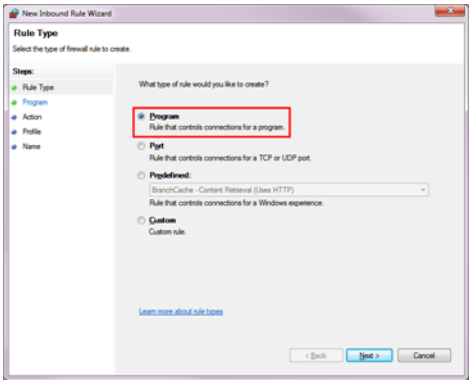
2. Click **Inbound Rules** to display the list of inbound rules.



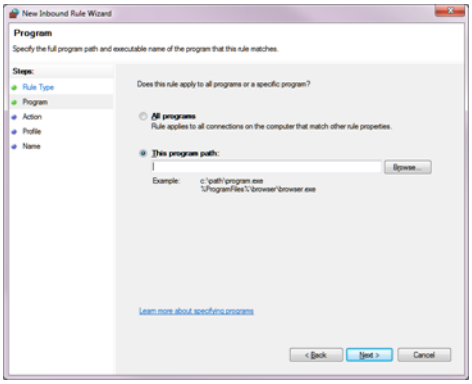
3. On the right side of the window, click **New Rule**.



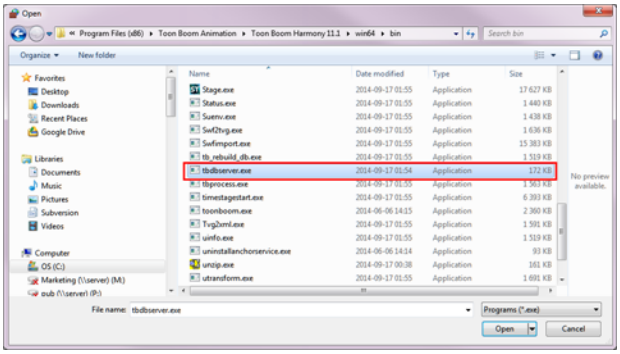
4. Select the **Program** option and click **Next**.



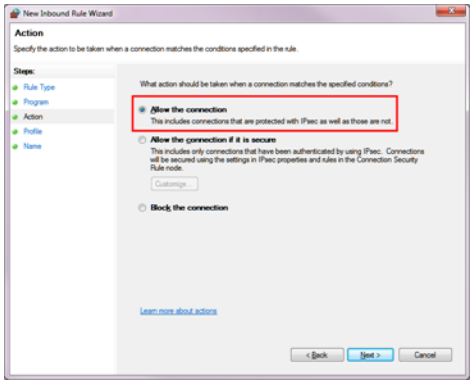
5. Select the **This Program Path** option and click **Browse**.



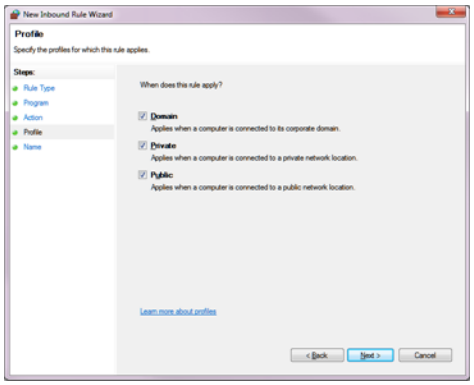
6. Navigate to the Harmony installation path and select **tbdbserver.exe**. Click **Open**.



7. Click Next and select the **Allow the Connection** option



8. Select the profiles for which this rule will be applied according to your network configuration and click **Next**.



9. Finish the Rule creation process by clicking **Finish**.
10. Repeat steps 1 to 9 for **tbprocess.exe** and **toonboom.exe**.
11. Repeat steps 1 to 9 for **lmgrd.exe** if this computer will be used as a license server.

Troubleshooting

If you have any outstanding issues running Toon Boom Harmony after installation, review the installation and configuration instructions to make sure you have followed them completely. If you continue to have problems, consult the following list to troubleshoot common installation and configuration problems.

Problem: License Error When Starting a Toon Boom Harmony Module

If you are getting license errors when you start a Toon Boom Harmony module, verify the setup and configuration of the license service.

How to verify the setup and configuration of the license service

1. Make sure that the **`license.dat`** file is in the following directory:
   `C:\flexlm`
2. Open the license.dat file; it should contain the following information:

   ```
   SERVER this_host 0 ANY

   VENDOR toonboom

   USE_SERVER
   ```

3. Make sure that the license service is running.

   If you continue having problems with the license server, locate the file **`ToonBoomLicense.log`** and send it to support@toonboom.com. This file is usually in **`C:\flexlm`**.

Problem: Unable to Import Sample Scene (Errors with the tbdbserver)

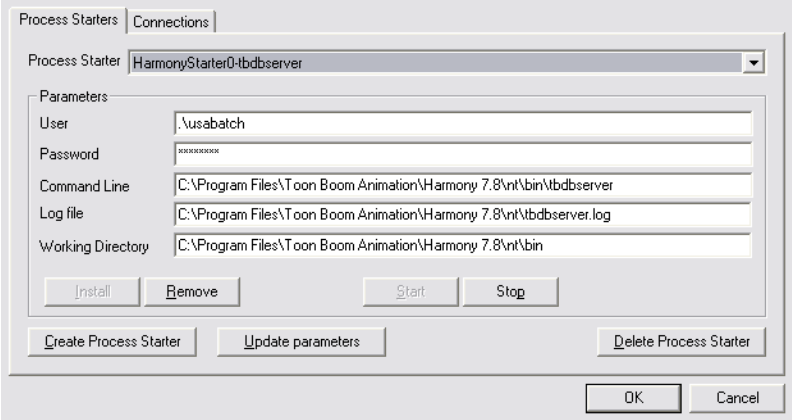
Check the **`tbdbserver.log`** file. It is usually stored in **`C:\ProgramData\Toon Boom Animation\Toon Boom Harmony`**.

If there is no log file, restart the tbdbserver.

How to restart the tbdbserver

1. Open the Control Panel.
2. Double-click the **Toon Boom Harmony Control Panel**  icon.

   The Toon Boom Harmony Control Panel dialog box opens.



3. From the **Process Starter** menu, select **`tbdbserver`**.
4. Click **Start**.

   If you continue to have problems with the database server, locate the **`tbdbserver.log`** file and send it to support@toonboom.com. This file is usually in **`C:\ProgramData\Toon Boom Animation\Toon Boom Harmony`**.

You can also run the Dbserver from the command shell in debug mode to receive additional information about the process.

How to run the tbdserver in debug mode

1. Open the **`/USA_DB/Dbserver.conf`** file.
2. Add the following line to the file:

   ```
   debug_port 5681
   ```

3. Click the Start menu and select **All Programs > Harmony 11.1> Configuration Tools > Control Panel**.
4. In the Toon Boom Harmony Control Panel window, select **`tbdbserver`** from the Process Starter menu and click **Stop**.
5. Open a command prompt by selecting **Start > All Programs > Accessories > Command Prompt**.
6. Type the following:

   ```
   tbdbserver -debug
   ```

While you are running the tbdbserver in debug mode, messages will be written to the shell for each operation the tbdbserver performs. This is in addition to the information written to the tbdbserver.log file.

---

7. To output this information to a new file, type the following:

   ```
   tbdbserver -debug > "C:\ProgramData\Toon Boom Animation\Toon Boom Harmony\tbdbserver_debug.log"
   ```

If you still cannot determine the nature of the problem, send the file to support@toonboom.com with a detailed description of the problem.

Problem: Unable to Open Sample Scene on Clients

If clients cannot open the sample scene, it is possible that they are not connected to the database server. Follow the instructions for connecting to the server—see *Setting Up the Database Server* on page 22.

Problem: resolution.conf Error Message

When you open the sample scene, you might get an error message that says that the **`resolution.conf`** file cannot be opened. This file is usually stored in the environment or job directory of your database. There is a resolution.conf file you can copy.

How to obtain a copy of the `resolution.conf` file

1. Open the following folder:

   `\Program Files\Toon Boom Animation(x86)\Harmony 11.1\resources\samples`
2. Copy the **`resolution.conf`** file to one of the following folder:
   - **`\USA_DB\environments\[environment_name]`**
   - **`\USA_DB\jobs\[job_name]`**
   - **`\USA_DB\resolution\`**

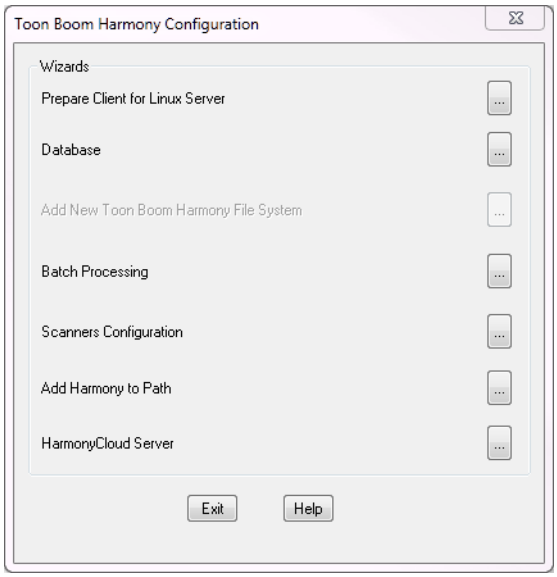
Chapter 2: Installing Harmony Cloud on Windows

You can use the Toon Boom Harmony Installation Wizard at any time to install Harmony Cloud Server as a service.

Configuring Toon Boom Harmony Cloud

How to open the Toon Boom Harmony Configuration Wizard

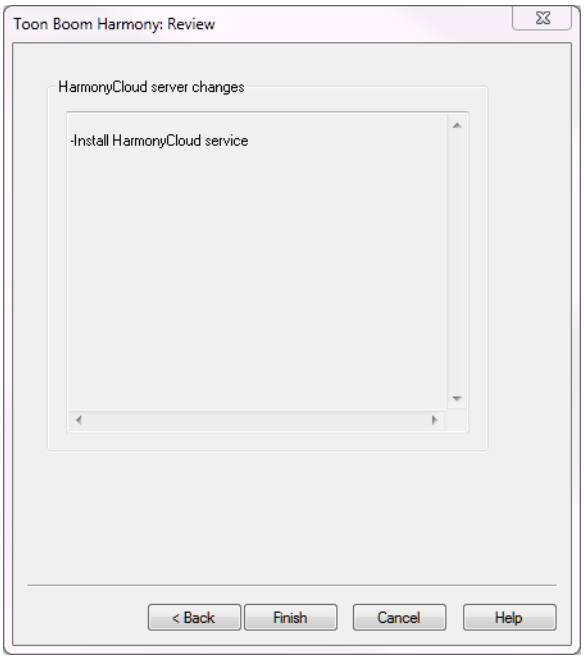
1. From the Start menu, select **All Programs > Harmony 11.1> Tools > Configuration Wizard**.
   The Toon Boom Harmony Configuration dialog box opens.



How to install Harmony Cloud as a service

1. In the Toon Boom Harmony Configuration dialog box, click **Harmony Cloud Server**.
   The Harmony Cloud Server window opens.

2. Select the **Yes** option and click **Next**.
3. Review the information in the window. If it is correct, click **Finish**.



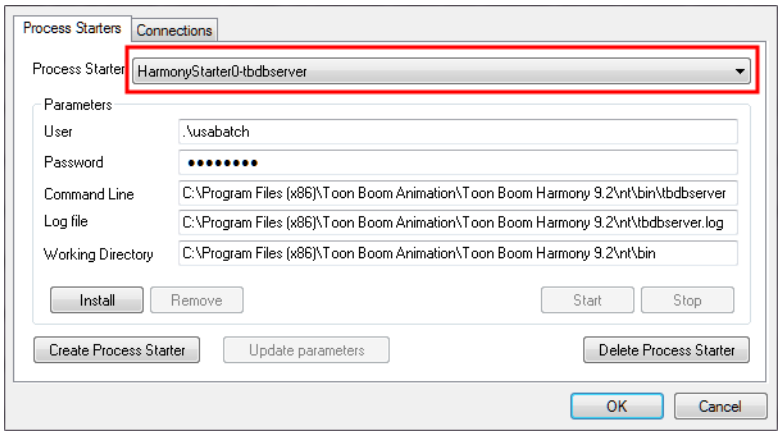
When the configuration wizard is finished, a dialog box opens which indicates the success of the process.

Customizing the Harmony Cloud Service

The Harmony Control Panel can be used to customize the parameters for the Harmony Cloud service.

How to customize the Harmony Cloud Service

1. From the Start menu, select **All Programs > Toon Boom Harmony 11.1 > Tools > Control Panel**.
2. On the Process Starters tab, select **HarmonyStarterX-HarmonyCloud** from the Process Starter menu.



3. If the service is running, click **Stop**.
4. In the Command Line field, modify the parameters you want to change. The customizable parameters are:
   - --http-port the port to deploy to
   - --http-addressIPv4 (e.g. 0.0.0.0) or IPv6 Address (e.g. 0::0)
   - --threadsnumber of threads
5. Click **Update parameters**.
6. Click **Start**.

Running Harmony Cloud Manually

If you do not want to run Harmony Cloud as a service, you have the option of manually starting the Harmony Cloud server—see *Customizing the Harmony Cloud Service* on page 42.

How to run Harmony Cloud manually

1. Using a command window, navigate to the installed directory of Toon Boom Harmony 11.1. This is usually located in:

   ```
   C:\Program Files (x86)\Toon Boom Animation\Toon Boom Harmony 11.1
   ```

2. Navigate to **win64\bin** folder.
3. Run **HarmonyCloud.bat**.

You can change the default port used by Harmony Cloud by modifying the **`HarmonyCloud.bat`** file. Open the file using your favourite text editor and update the value of the parameter –http-port to the desired value. See bolded text below:

HarmonyCloud.exe --docroot ../../resources/cloud --http-address 0.0.0.0 --http-port **8080** --config ../../resources/cloud/wt_config.xml

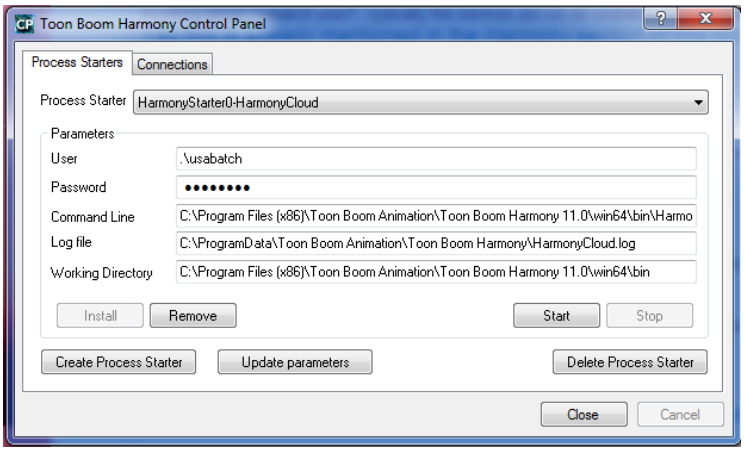
Managing the Harmony Cloud Service

Using the Harmony Control Panel

If at any point you want to stop/start Harmony Cloud Services, you can do so through the Harmony Control Panel.

How to use the Harmony Control Panel

1. From the Start menu, select **All Programs > Toon Boom Harmony 11.1 > Tools > Control Panel**.
2. On the Process Starters tab, select **HarmonyStarterX-HarmonyCloud** from the Process Starter menu.
3. Click **Start** or **Stop** to start or stop the service respectively.



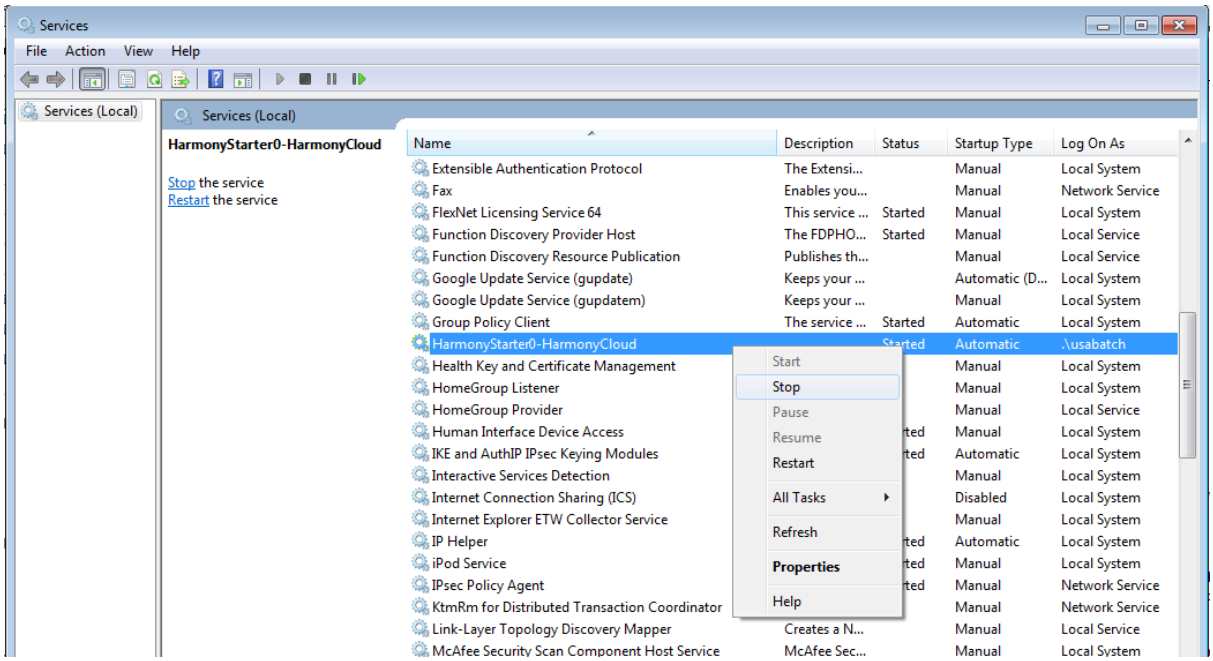
Using Windows Services

If at any point you need to start/stop or restart the Harmony Cloud server, you can do so through the Administrative Tools in Windows.

How to access a list of running services on your computer

1. Navigate to your system's Control Panel.
2. Depending on your setup, select **System and Security > Administrative Tools > Services** or **Administrative Tools > Services.**

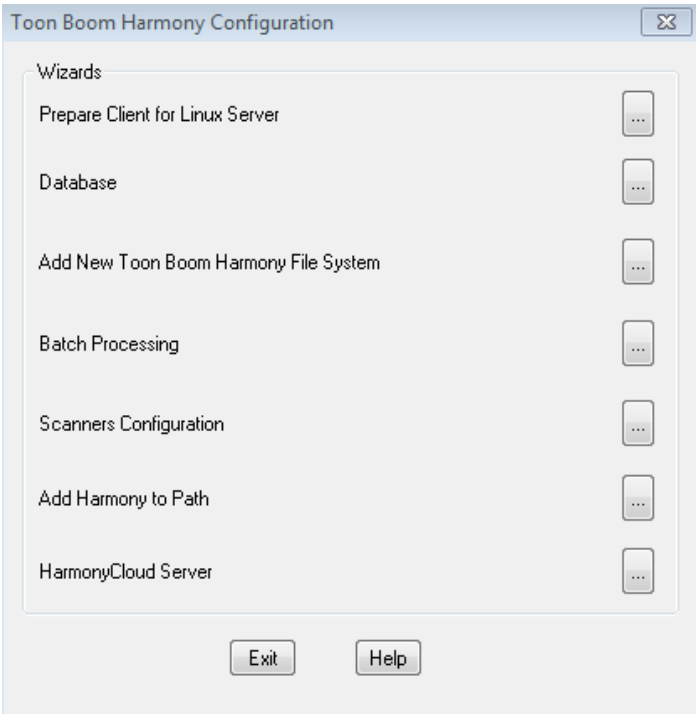
3. Locate **HarmonyStarterX-HarmonyCloud** from the list of services and right-click and select **Start** or **Stop** to start or stop the service.



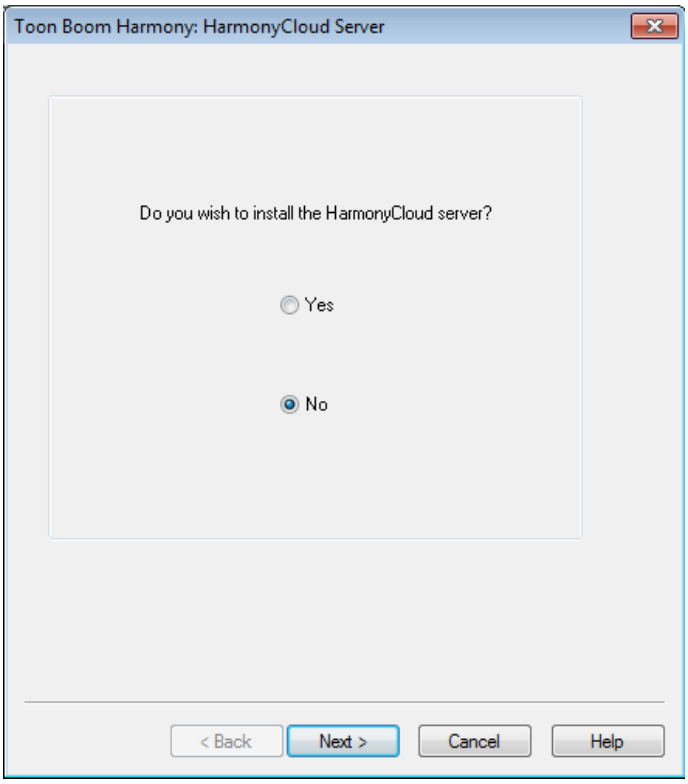
Uninstalling the Harmony Cloud Service

How to uninstall the Harmony Cloud Service

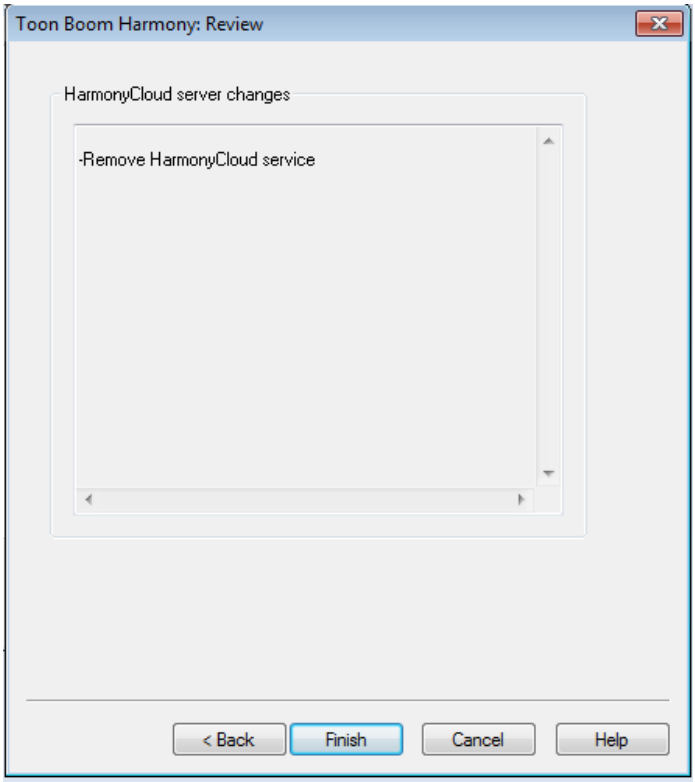
1. In the Toon Boom Harmony Configuration dialog box, click **Harmony Cloud Server**.



2. Select the **No** option, and click **Next**.



3. Review the information in the window. If it is correct, click **Finish**.
4. When the configuration wizard is finished, a dialog box opens which indicates the success of the process.



Alternatively, you can use the Harmony Control Panel to remove the Harmony Cloud service or delete the Harmony Cloud process starter.

How to uninstall through the Harmony Control Panel

1. From the Start menu, select **All Programs > Toon Boom Harmony 11.1 > Tools > Control Panel**.
2. On the Process Starters tab, select **HarmonyStarterX-HarmonyCloud** from the Process Starter menu.
3. Click **Remove** then click **Delete Process Starter**.
4. Click **OK**.

Network Setup

If your server does not have a assigned IP address on your DNS server, you should set up a static IP.

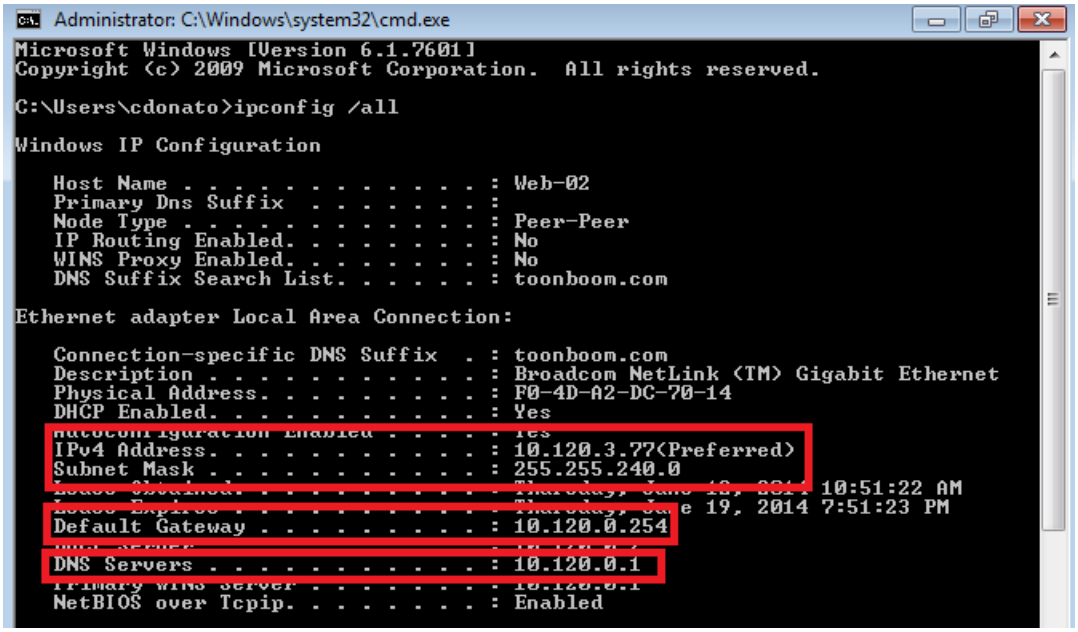
Setting Up a Static IP

How to set up a static IP for accessing the Harmony Cloud application

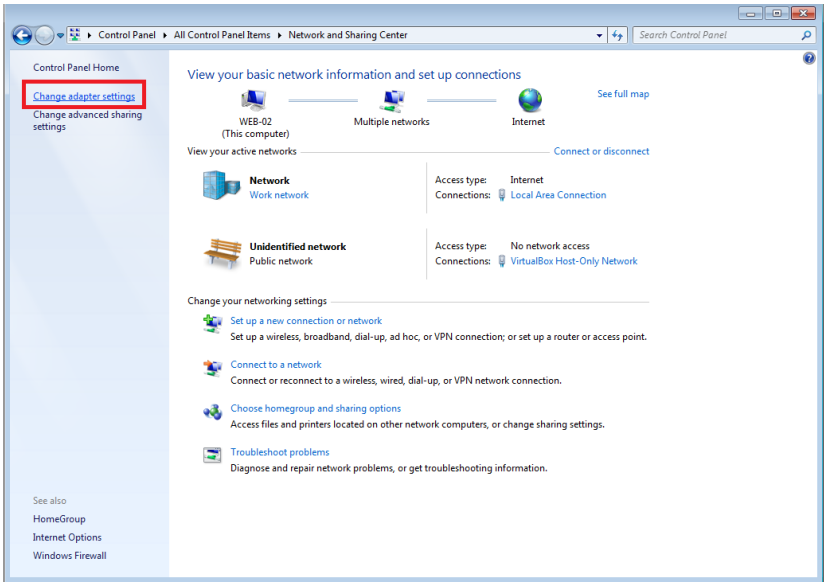
1. Click the **Start** menu and type **`cmd`** in the Search programs and files field. Press Enter.
2. In the command prompt that opens, type:

   ```
   ipconfig /all
   ```

3. Make a note of the following information from the screen: **IPv4 Address**, **Subnet Mask**, **Default Gateway** and **DNS Servers**.



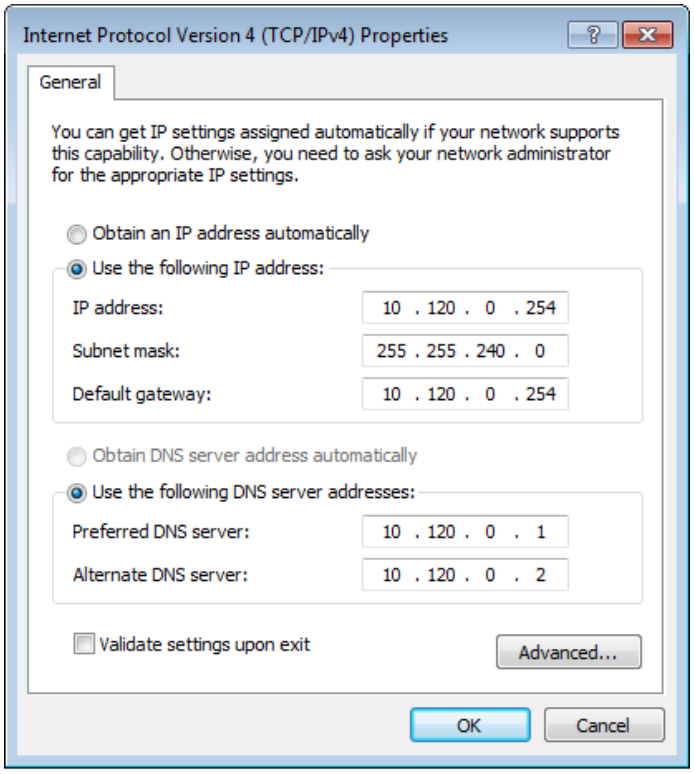
4. From the Start menu, select **Control Panel**.
5. Click **View network status and tasks**.
6. On the top-left side of the screen, click **Change adapter settings**.



7. It is possible to have multiple connections listed. You need to determine which adapter is your connection to the Internet. Right-click on your network adapter and select **Properties**.

   The Local Area Connection Properties opens.
8. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

   The Internet Protocol Version 4 (TCP/IPv4) Properties dialog box opens.



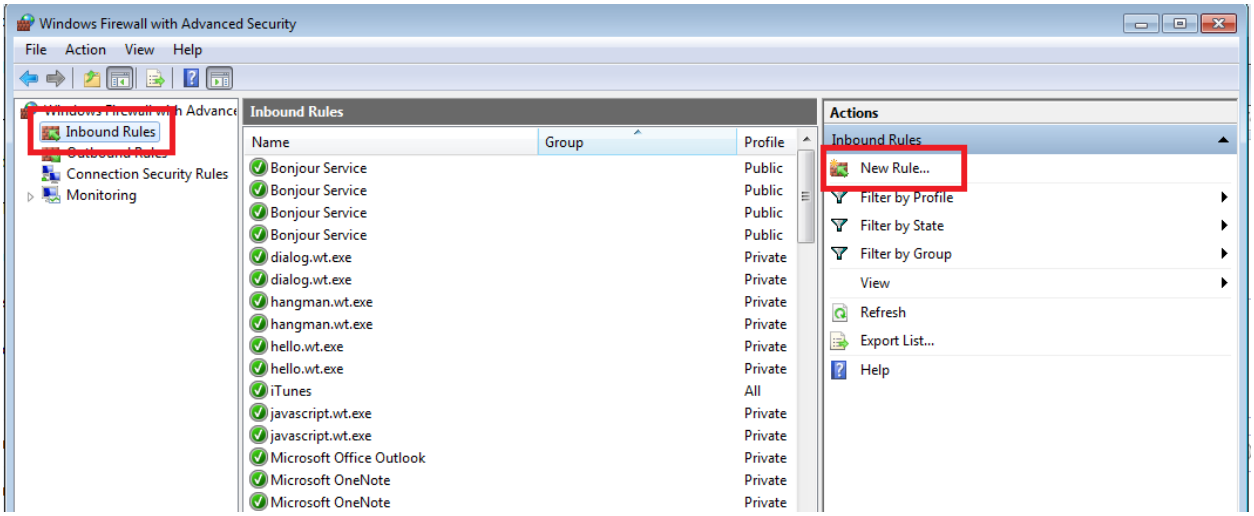
9. Select the **Use the following IP address** option. Enter the IP address, Subnet Mask, and Default Gateway information you obtained in step 3.
10. Select the **Use the following DNS server addresses** option. Enter the DNS addresses you obtained in step 3.
11. Click **Advanced**.
12. Select the **DNS** tab.
13. Add your DNS suffix obtained in step 3.

Opening a Port for External Connection

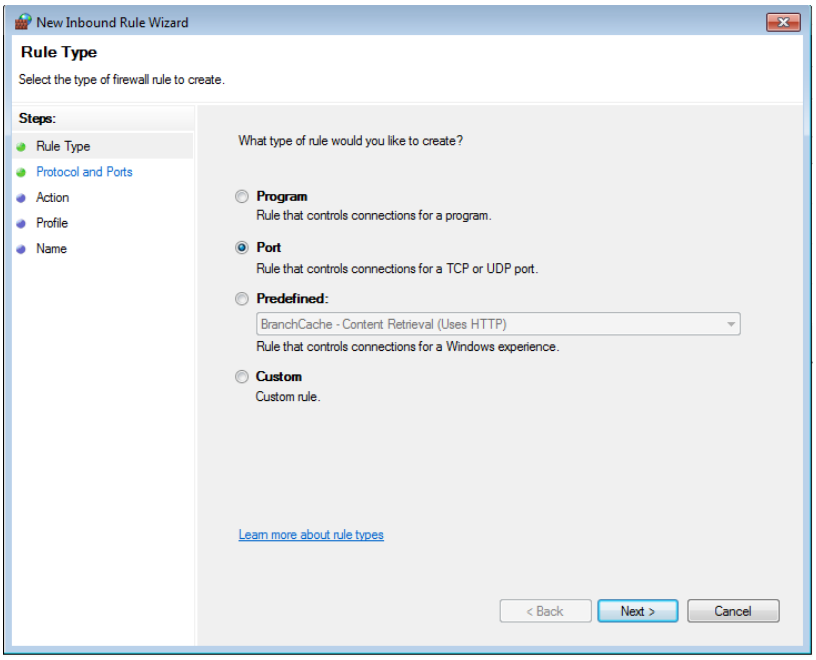
It is necessary to open a port in your firewall to allow other computers to access your Harmony Cloud server. Harmony Cloud is using port 8080 by default.

How to open a port for external connection

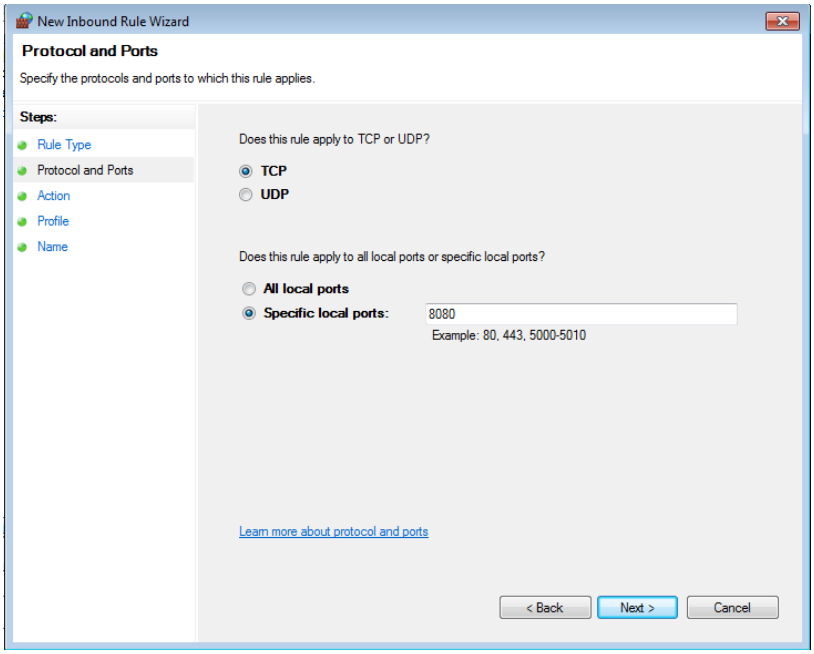
1. From the Start menu, select **Control Panel**.
2. Depending on your setup, you might need to click System and Security before moving to the next step.
3. Click **Windows Firewall**.
4. On the top-left side, click **Advanced settings**.
5. On the left pane, click **Inbound Rules**.
6. On the right pane, click **New Rule**.



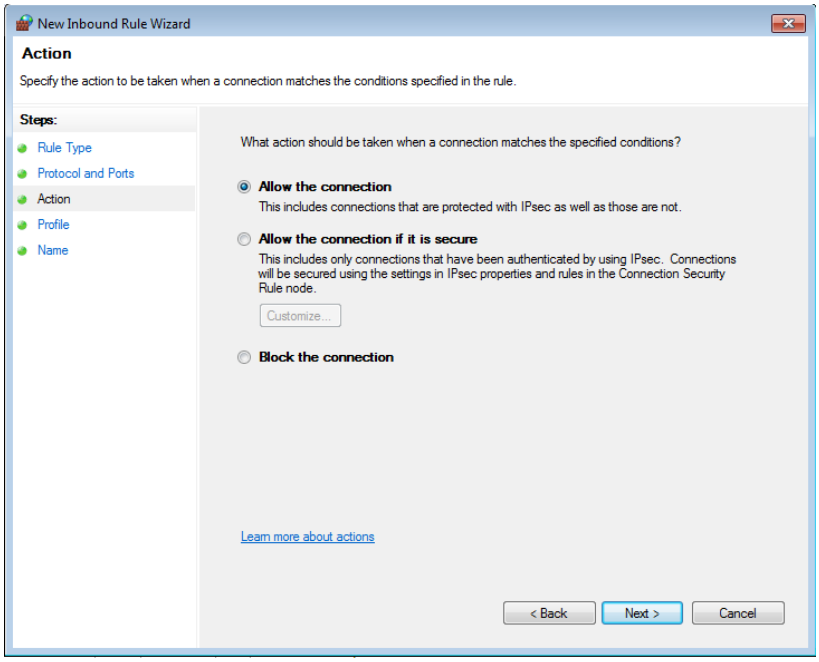
7. Select **Port** and click **Next**.



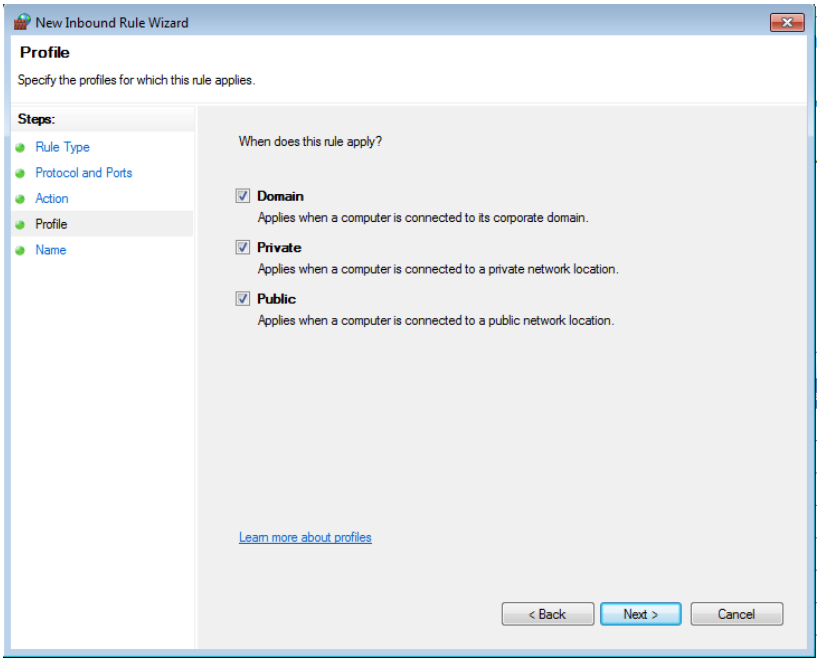
8. Select the **TCP** and **Specific local ports** options.
9. In the Specific local ports field, type in **8080** and click Next.



10. Select the **Allow the connection** option and click **Next**.



11. Select the **Domain**, **Private** and **Public** options and click **Next**.



12. In the Name field, type in **Toon Boom Harmony Cloud** and click **Finish**.

Chapter 3: Installing on Mac OS X

This document explains how to install Toon Boom Harmony 11.1 on Mac OS X, and assumes that you are familiar with Mac OS X networking and know how to work in a command shell.

Throughout this document, you will be creating files using your favourite text editor. Be sure to convert your files to plain text before saving them.

There are several stages required to install Toon Boom Harmony 11.1, which are covered in the following topics:

1. *Pre-installation* on page 54
2. *Harmony Installation* on page 57
3. *Configuration* on page 61
4. *Configuring Harmony to Share Scene Data* on page 72
5. *Configuring Harmony Clients* on page 80

After completing these stages, you can verify the integrity of the installation and resolve any configuration issues.

- *Troubleshooting* on page 83

Pre-installation

Before installing Toon Boom Harmony 11.1, you must perform the following tasks:

- *Checking Your Minimum Requirements* on page 54
- *Getting the Product Activation Code* on page 54
- *Prerequisites for Harmony Installation* on page 54

Checking Your Minimum Requirements

For the most current Toon Boom Harmony 11.1 hardware requirements, refer to the white paper *Harmony and Your IT Department* available from:

- Toon Boom Animation Sales Representative
- Toon Boom Animation Support at: support@toonboom.com

Getting the Product Activation Code

You should obtain a Product Activation code from the Toon Boom licensor so that you can finish the installation process without having to wait for the activation code to arrive.

To obtain a Toon Boom Harmony 11.1 activation code, send the following information to: licensor@toonboom.com.

- Your name and the name of your company
- Email address where to send the license file

Editing Files

- When editing files, you can use your favourite text editor. In this guide, all the Mac OS X procedures use the vi text editor.
- You must be logged in using the **`root`** account. If not, type **`sudo`** before launching the command. For example:

```
sudo vi hosts
```

Prerequisites for Harmony Installation

A DNS server must be configured on the network to be able to run Harmony. All the computers running Harmony must be registered with this server or Harmony will not be able to run properly. If a DNS server is not configured on the network or if Harmony workstations are having problems resolving the name of the server, the name of the server and each client along with their IP address should be added to the **`/etc/hosts`** file on each computer.

Editing the hosts File

How to edit the hosts file

1. Make sure the server and all the client workstations are configured with a static (fixed) IP address.
2. Open the Terminal:

   `/Application/Utilities/Terminal`
3. From the Terminal, go to the **`/etc`** folder:

   `cd /etc`
4. Create a backup copy of the **`hosts`** file. You must be logged in using the **root** account. If not, type **`sudo`** before launching the command.

   `sudo cp hosts hosts.bak`
5. Edit the **`/etc/hosts`** file using the **`vi`** text editor.
6. Once the file is opened in the editor, press **`i`**to trigger the **`insert`** mode.
7. Go to the end of the file and add a new line. Type the static IP address and the machine name (hostname) of the server. Make sure there is a space between the IP address and the hostname.

   If there is a domain configured on the network, you should also type the Fully Qualified Domain Name (FQDN) after the hostname and separate them with a space.

   Example: **`192.168.1.1 server server.toonboom.com`**

   To complete this step, add the IP address and the hostname of each workstation that will be a client of the Harmony server. Each of them should be typed on a new line.
8. Save the file by pressing Esc to exit the **`insert`** mode.
9. Press colon (**:**).

   A colon appears at the bottom of the Terminal. If not, then you are still in **`insert`** mode. Make sure you did not type the colon somewhere in the files. Press Esc again to exit **`insert`** mode.
10. Type **`wq`**.

    The following appears at the bottom of the Terminal.

    `:wq`
11. Press the **Return** key.

    The file is written and the system returns you to **`/etc`** in the Terminal.
12. Verify the content of the **`hosts`** file:

    `more hosts`
13. Copy and paste the **`hosts`** file to all the client machines.

Editing the launchd.conf File

How to edit the launchd.conf file

1. Open the Terminal:

   /Application/Utilities/Terminal

2. From the Terminal, go to the **/etc** folder:

   cd /etc

3. If the **/etc/launchd.conf** file already exists, create a backup copy:

   cp launchd.conf launchd.conf.bak

4. Edit the **/etc/launchd.conf** file using your favourite text—see *Editing Files* on page 54.
5. Once the file is opened in the editor, press **i** to trigger the **insert** mode.
6. At the beginning of the file, add a line with the following:

   umask 0

7. Save the file by pressing Esc to exit the **insert** mode.
8. Press colon (**:**).

   A colon appears at the bottom of the Terminal. If not, then you are still in **insert** mode. Make sure you did not type the colon somewhere in the files. Press Esc again to exit **insert** mode.
9. Type **wq**.

   The following appears at the bottom of the Terminal.

   :wq

10. Press the **Return** key.

    The file is written and the system returns you to **/etc** in the Terminal.
11. Verify the content of the **launchd.conf** file:

    more launchd.conf

Harmony Installation

Now that you have verified the minimum requirements and configured your hardware and software, you are ready to install Toon Boom Harmony.

Here is what you will be doing:

1. *Upgrading from a Previous Installation* on page 57
2. *Creating the usabatch User* on page 59
3. *Installing Harmony* on page 60

Upgrading from a Previous Installation

When upgrading previous installations of Harmony or Opus, pick a time when Harmony or Opus production is slow or stopped. During the upgrade, no users can run any of the Harmony or Opus modules and all rendering jobs must be completed.

How to update previous installations

1. Make sure that no one is running any versions of Harmony or Opus. All Harmony or Opus modules must be closed on the server and on all the clients.
2. Verify that all batch rendering and vectorizing is completed or that the queues are empty. You can check the status of the Vectorize and Render queues from the Control Center module.
   - In the Control Center module, use the Queue menu to open the **Vectorize and Render Queue** for all environments. The Queues should either be empty or the status of all jobs should be "Completed".

   Be sure to stop the queues on all rendering machines. If the queues are running, those binaries will be locked and the installer cannot update them.
3. Stop all services running on the server and the clients.
   - If you are upgrading from version 7.3 and later, type in the Terminal:

     ```
     sudo /sbin/SystemStarter stop ToonBoomQueueServer
     sudo /sbin/SystemStarter stop ToonBoomLinkServer
     sudo /sbin/SystemStarter stop ToonBoomDatabaseServer
     sudo /sbin/SystemStarter stop ToonBoomLicense
     ```

   - If you are upgrading from Harmony or Opus 7.2, type in the Terminal:

     ```
     sudo /sbin/SystemStarter stop USAnimation_queues
     sudo /sbin/SystemStarter stop USAnimation_link_srv
     sudo /sbin/SystemStarter stop USAnimation_dbserver
     sudo /sbin/SystemStarter stop USAnimation_flexlm
     ```

4. Go to the applicable folder:
   - Version 7.8 and later: **`/Applications/Toon Boom Harmony [version]/tba/etc`**
   - Version 7.3: **`/Applications/Toon Boom Harmony/usa.bundle/etc`**

- Version 7.2: **/usa/etc**

5. Back up any necessary configuration files:
   - **manager.conf**
   - **server.ini** if this server is configured to have Windows clients.
   - **Scan.conf** if this workstation is configured to be a scanning station.
   - **VectOptions.conf** from any machine (including the server) that is doing batch vectorization.
   - Any other configuration file that is required to be used later.
   - You can back up the entire application folder to ensure that no configuration file is missed.
6. Go to **/usr/local/flexlm/licenses/** (**/usa/etc/flexlm/** if you are upgrading from version 7.2 folder and back up the **license.dat** file.
7. Delete the **/Applications/Toon Boom Harmony [version]** folder or rename it to keep as a backup.
8. If you are upgrading from a previous version of Harmony or Opus, you must delete Startup Items from the previous installation. For example:
   - Version 7.2 and later: From **/Library/StartupItems/**, delete any folders that begin with USAnimation, such as **USAnimation_dbserver**.
   - Version 7.3 and later: Delete any folders that begin with **ToonBoom**, such as **ToonBoomDatabaseServer**.

Depending on the server and client configuration, you might not see any folders starting with **Toonboom** or **USAnimation**.

Deleting Files in Each User's Home

If you are upgrading from Harmony or Opus, you must also delete extra files that are located in each user's home.

How to delete files in each user's home

1. Open the Terminal:

   /Application/Utilities/Terminal

2. Go to a user's home that was configured to work with Harmony. Using the **usabatch** account as an example:

   cd /Users/usabatch

3. List all the files in usabatch's home:

   ls -lsa

4. Look for a folder named **.MacOSX** in the list of files and folders that appear.
5. If the folder is there, delete it:

```
sudo rm -rf .MacOSX
```

6. Repeat these steps for each user that was configured to work with a previous version of Harmony.

Creating the usabatch User

Before you install Harmony, you must create the **usabatch** user account on the server and on all the workstations that will performing batch processing (computers that will be part of the batch rendering or vectorizing farm). A number of services, including the tbdbserver, license server and batch processing are started using the **usabatch** account.

The **usabatch** account must have administrator rights on the computer.

If you are upgrading from a previous version of Harmony or Opus, you may not need to create the **usabatch** account since you will use the same account that was created from the previous installation.

How to create the usabatch user account

1. Open **System Preferences**. By default, there is a shortcut for **System Preferences** in the **Dock**.
2. In the System panel of the **System Preferences** dialog box:
   - Version 10.6 (Snow Leopard): Click **Accounts**.
   - Version 10.7 (Lion): Click **Users & Groups**.
   - Version 10.8 (Mountain Lion):
   - Version 10.9 (Mavericks): Click **Users & Groups**.

   The Password tab of the Accounts window opens.
3. To make changes to the accounts on a Mac OS X, click the lock icon at the bottom of the window. Enter your username and password for an account that has administrator privileges.
4. Click the plus (+) sign button to add a new user.
5. Give the new user the following name, account name and password:

   ```
   usabatch
   ```

   The **usabatch** account name and password must be in all lower-case letters.
6. Select **Administrator** from the menu next to **New Account**.
7. Create the account:
   - Version 10.6 (Snow Leopard): Click **Create Account**.
   - Version 10.7 (Lion): Click **Create User**.
   - Version 10.8 (Mountain Lion):
   - Version 10.9 (Mavericks): Click **Create User**.
8. Once the account is created, open the Terminal and log in as the **usabatch** user:

   ```
   su -l usabatch
   ```

9. Make sure you are in home folder of **usabatch**, then edit or create the **.profile** for **usabatch**:

   ```
   .profile
   ```

10. Press **i** to trigger the **insert** mode.
11. Make sure the file contains the following lines:

```
#!/bin/bash

umask 0
```

12. Press Esc to exit the **insert** mode, then type **:wq** to write the file and exit vi.

Installing Harmony

In a client-server network or in a standalone setup, you must install Harmony, as well as the following services on the server or the standalone computer:

tbdbserver	Controls access to the database.
License service	Controls the number of licenses and features available to Harmony users.
Batch processing	Controls batch vectorizing and rendering queues.
Link server	If you are installing Harmony on a Mac OS X server that will support Windows clients, you must install the Link server.

To install Harmony programs and services, you must run the installation package. Before you start the installation, make sure you are currently logged in the system with administrator rights on your local computer.

How to get administrator privileges

1. Open **System Preferences**. By default, there is a shortcut for **System Preferences** in the **Dock**.
2. In the System Preferences dialog box, do one of the following:
   - Version 10.6 (Snow Leopard): Click **Accounts**.
   - Version 10.7 (Lion): Click **Users & Groups.**
   - Version 10.9 (Mavericks): Click **Users & Groups.**

   The Password tab of the Accounts window opens.
3. Select your user login account and verify if the **Allow user to administer this computer** option is selected. To make changes to the accounts on a Mac OS X, click the lock icon at the bottom of the window. Enter your username and password for an account that has administrator privileges.

How to install Harmony

1. Double-click the Harmony .dmg file.
2. Drag the **Toon Boom Harmony 11.1** folder from the .dmg file to the **Applications** folder.

Configuration

After installing Harmony, configure the database parameters and the third party software based on the role this computer will have.

Configuring Harmony

Once Harmony is installed, additional steps are required to configure the database on the server and to set up the startup items and register the application path for the Terminal.

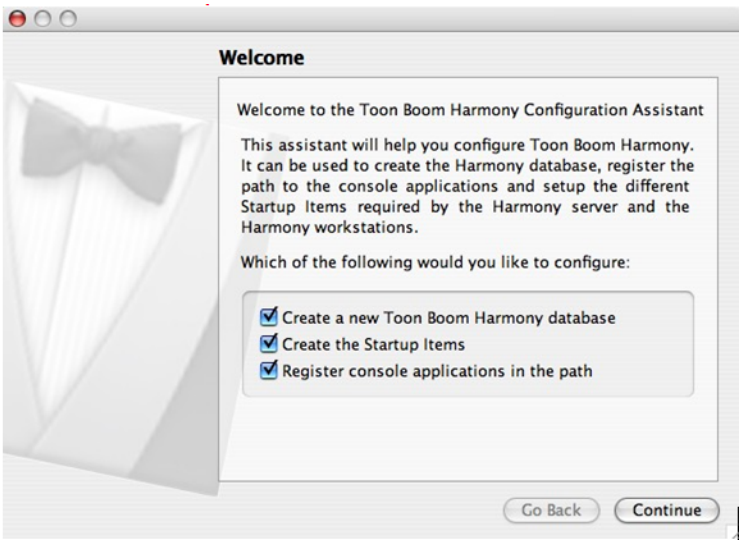
Setting Up the Database Server

The database server controls all interactions with the contents of the Toon Boom Harmony 11.1 database. It processes all requests to open, read or update files, keeping track of files that are locked so others cannot edit them.

If you already have a database set up from a previous installation of Toon Boom Harmony 11.1, you **DO NOT** need to set up the database server, startup items, or register console application in the path. However, if you are upgrading from a previous version, you need to install the startup items and register console applications in the path. For new installations of Harmony, you must install all of them.

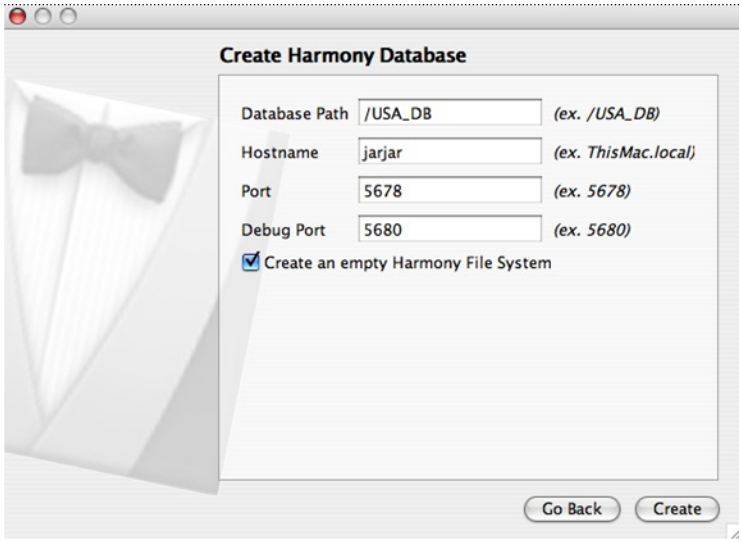
How to configure the database server using the Configuration Assistant

1. From Finder, go to **Applications > Toon Boom Harmony 11.1 > Tools.**
2. Double-click on **Configuration Assistant**.
3. For the server, select all three options if this is the first time you are installing on this machine.
   - If you are upgrading from a previous version and a database (**`/USA_DB`**) already exists on the server, deselect the **Create a new Toon Boom Harmony 11.1 database** option.
   - If you are upgrading from an earlier version of Toon Boom Harmony 11.1, update the **`dict`** files in the **`/USA_DB`**. Copy the **`dict`** files from here: **`/Applications/Toon Boom Harmony 11.1/tba/etc/USADB_templates/dicts/`** to **`/USA_DB/dicts/`**.



4. Click **Continue**.

   The Create Harmony Database screen opens. The default values shown in this dialog box should be correct.



5. Click **Create**.

You can always create the Toon Boom Harmony 11.1 database manually later. To do so, open the Terminal and type the following:

```
cd / [Return]

mkdir usadata000 [Return]

chmod -R 777 usadata000 [Return]
```

You must be logged in using the **root** account. If not, type **sudo** before launching the command.

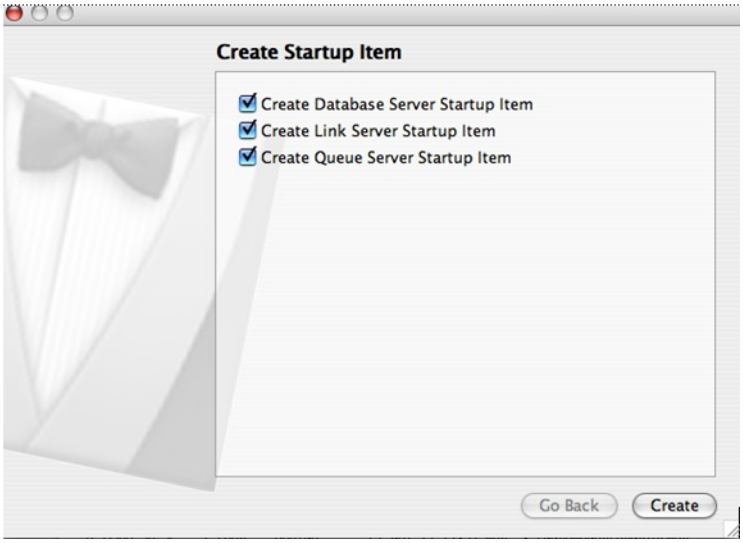
You can make as many data directories as you like. Name these directories using the following syntax, where XXX represents the number of the data directory:

```
usadataXXX
```

If you want to use a name other than **usadataXXX** for the Toon Boom Harmony 11.1 database, edit the **Manager.conf** file and add the name or search pattern for this new database. The **Manager.conf** file can be edited using the **Configuration Editor** in the Tools folder of your Toon Boom Harmony 11.1 installation. Open the **Configuration Editor** and select the **Manager.conf** tab.

---

6. In the Create Startup Item screen, select the startup items required.



Parameter	Description
Create Database Server Startup Item	It is mandatory to install this on the server.
Create Link Server Startup Item	This is required when there will be Windows clients connecting to the Mac server. This service creates symbolic links when a scene is created from a Windows client workstation.
Create Queue Server Startup Item	This is for the batch rendering. Do not install this on the server, as it will slow it down. Install this on a standalone machine used for batch vectorizing or rendering.

7. Click **Create**.
8. In the Register Path screen, choose whether you want to register the path for the current user or for all users.

This option appends the path of Harmony's applications to the PATH environment variable in order to run the applications from the Terminal.

Parameter	Description
Registration Path for all users	Registers the path for all accounts on the computer. You only need to run this once.
Registration Path for my user only	Registers the path to the current account only. You need to run this for each user that will be using the Terminal and you need to run this each time you create a new user.

9. Click **Create** to go to the next page.
10. Click **Done** to close the Configuration Assistant.

Configuring the Licensing

The licensing must be configured before running Toon Boom Harmony 11.1.

You must perform the following tasks on the server:

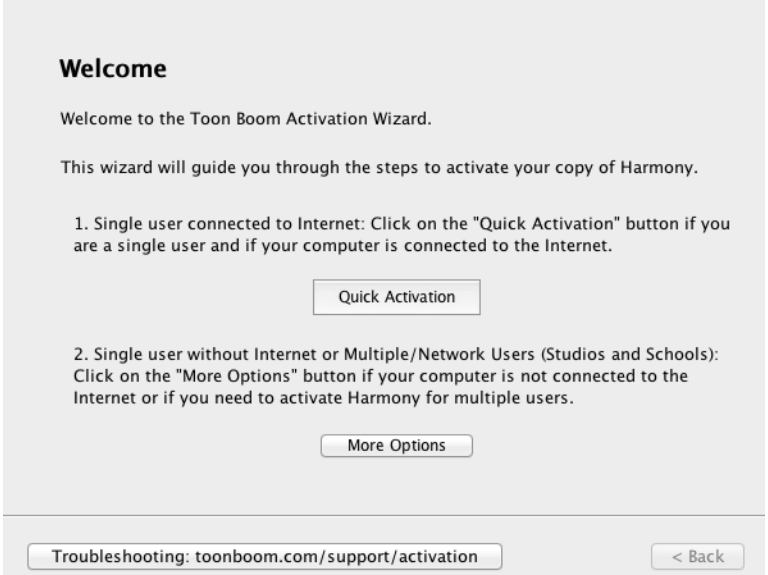
- *Setting Up the FlexLM License Server* on page 64
- *Setting Up the License on Client Workstations* on page 69

Setting Up the FlexLM License Server

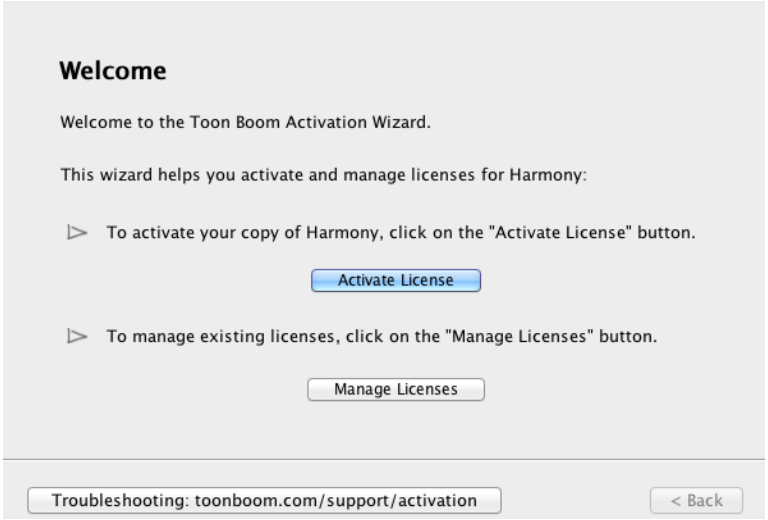
For existing installations, you must reinstall Harmony on your license server machine in order for FlexLM to work properly.

How to configure the license server

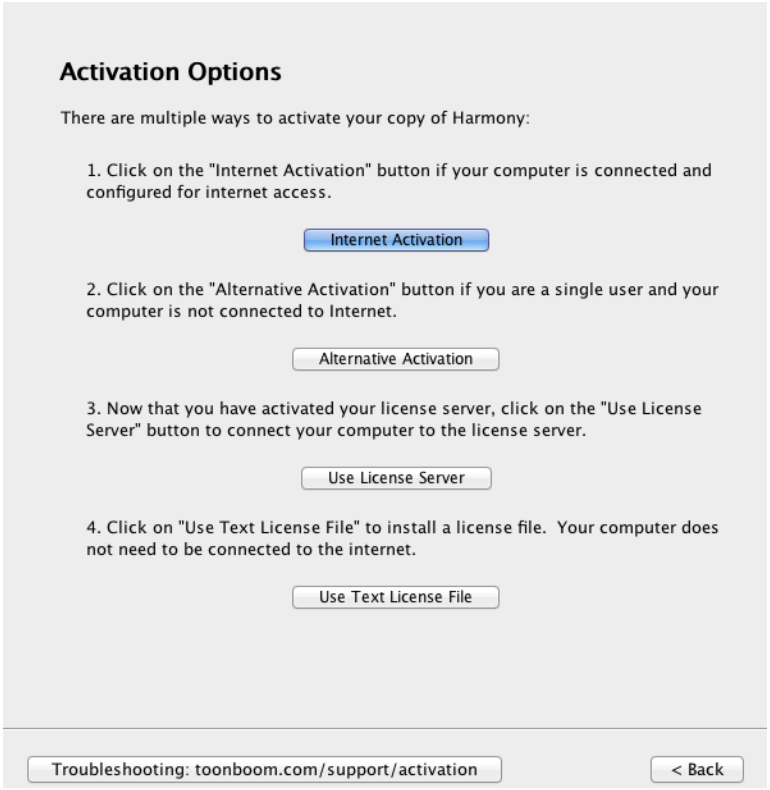
1. Start the License Wizard from **Applications >** Toon Boom Harmony 11.1 **> Tools > LicenseWizard**.
1. Depending on how the License Wizard was started, the first page will be as follows:
   - If this screen appears, click **More Options**.



- If this screen appears, click **Activate License.**



The Activation Options screen appears.

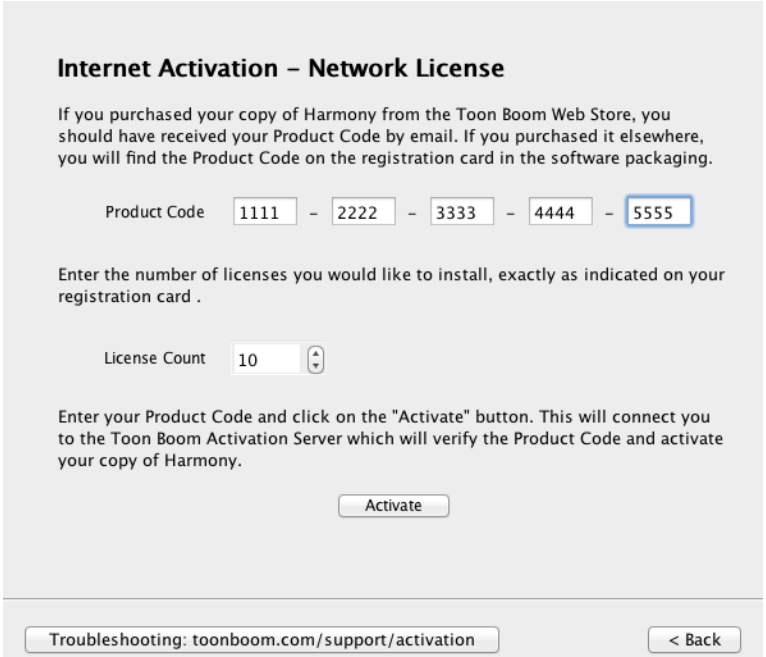


2. Click **Internet Activation**

   The Internet Activation Options screen appears.

3. Click **Network License.**

The Internet Activation - Network License screen appears.

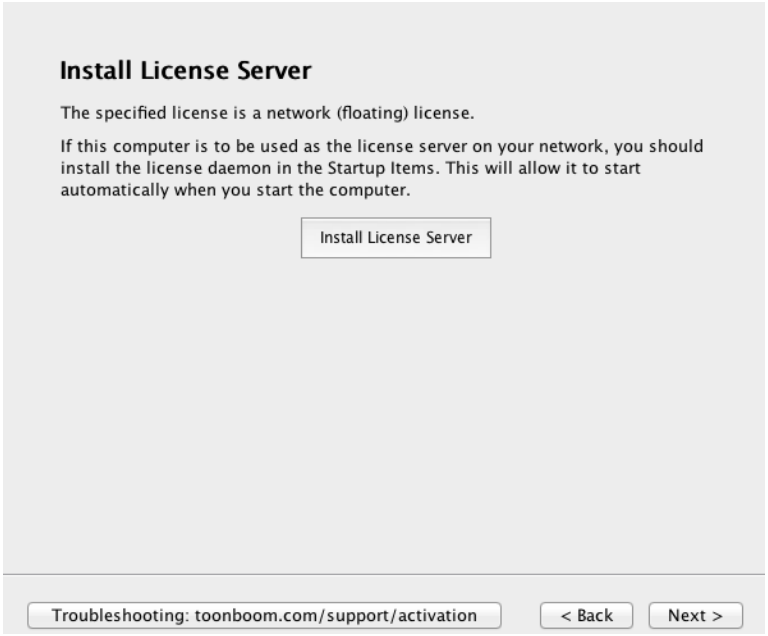


4. In the Product Code fields, enter your product code.
5. In the License Count field, enter the number of licenses the product code grants you.

> Once activated and returned to the activation server, a server license cannot be activated again. Make sure you are activating the license on the correct computer with the proper license count.

6. Click **Activate**.

   The Install License Server screen appears.



7. Click **Install License Server**.
   The **`license.dat`** file is created in **/usr/local/flexlm/licenses/license.dat.** The License Server is also configured and started.

   The **`license.dat`** created contains the following:

   ```
   SERVER this_host 0 ANY
   VENDOR toonboom
   USE_SERVER
   ```

8. Click **Finish** to exit the wizard.
9. Verify that the FlexLM license is working properly:

   ```
   lmutil lmstat -a
   ```

   You can can also look at the log:

   ```
   less /tmp/lmgrd.log
   ```

   If the FlexLM service needs to be restarted:

   ```
   /etc/init.d/USAnimation_flexlm restart
   ```

   The Activation Successful screen appears.

10. Click **Finish** to exit the wizard.
11. Verify that the FlexLM license is working properly:

    ```
    lmutil lmstat -a
    ```

    You can also look at the **ToonBoomLicense.log** file:

    ```
    /Library/Logs/ToonBoomLicense.log
    ```

12. If the FlexLM service needs to be restarted:

    ```
    sudo /sbin/SystemStarter restart ToonBoomLicense
    ```

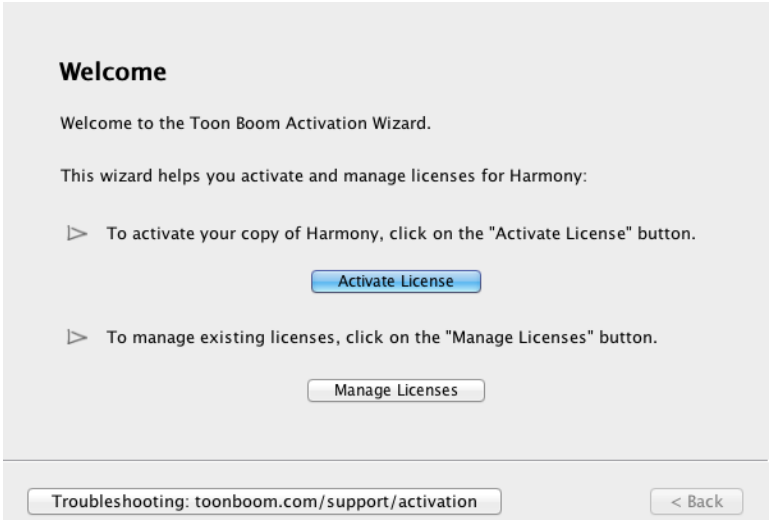
Setting Up the License on Client Workstations

An Admin account is required for setting up the license on the client workstations. After activation you can login as client.

How to set up the license on a client workstation

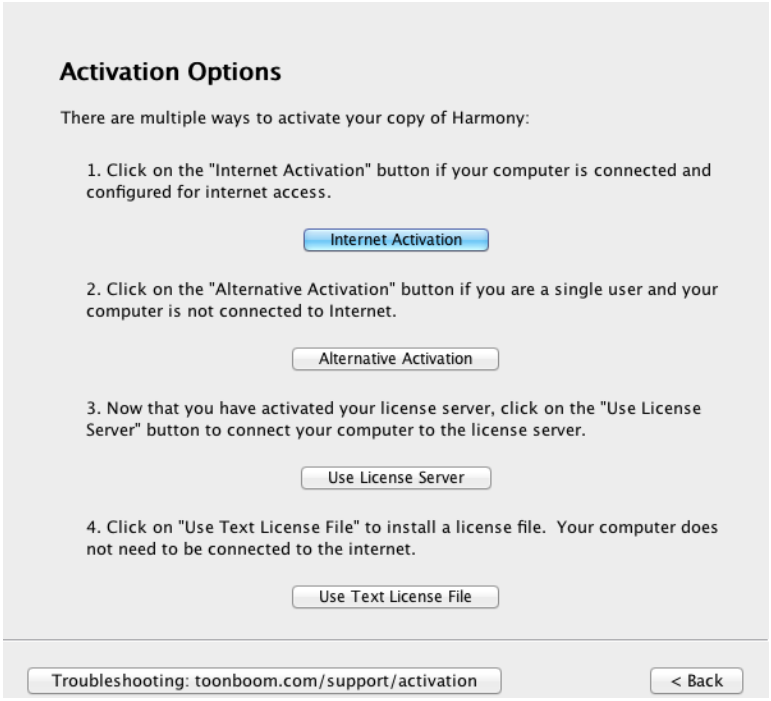
1. Open the **License Wizard** on the client workstation.

The Toon Boom Activation Wizard appears.



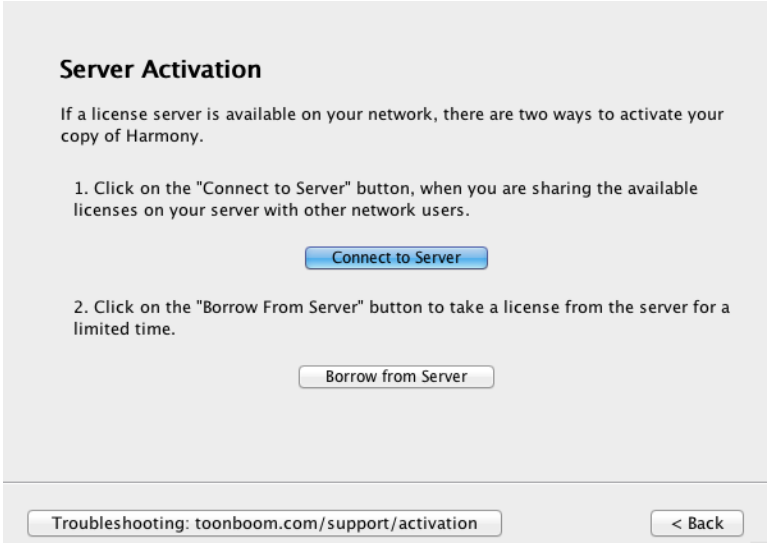
2. Click **Activate License**.

   The Activation Options screen appears.



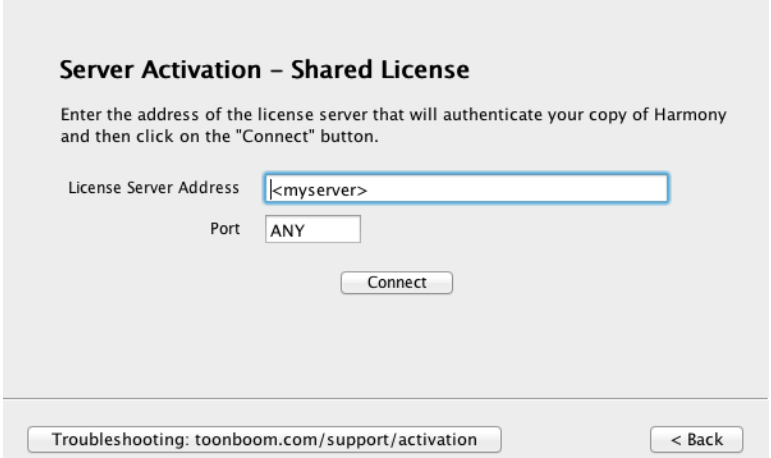
3. Click **Use License Server**.

The Server Activation screen appears.



4. Click **Connect to Server**.

   The Server Activation - Shared License screen appears.



5. In the License Server Address field, enter the hostname or IP Address.
6. Click **Connect**.

   You are prompted for a password.
7. Enter the password and click **OK**.

   The Activation Successful screen appears.
8. Click **Finish** to close the License Wizard.

Configuring Harmony to Share Scene Data

Before you can share scene data between a Mac OS X database and Mac OS X, Linux, and Windows clients, you must configure the Mac OS X database server appropriately.

- *Sharing Harmony Directories for Mac OS X and Linux Clients* on page 72
- *Setting Up the Server for Windows Clients* on page 73

Sharing Harmony Directories for Mac OS X and Linux Clients

Toon Boom Harmony 11.1 uses NFS (Network File System) to share files between Mac OS X and Linux computers. You must use NFS to export directories from the server so clients can mount them and share the contents.

Sharing the Database for Mac OS X and Linux Clients

If your Mac OS X server will have Mac OS X or Linux clients, you must export the **USA_DB** and **USADATA** folders using NFS. The clients will then need to be configured to mount those exported folders from the server.

Setting Up NFS Exports on Mac OS X 10.7 and 10.6

The following procedure shows you how to export the **/USADATA** and **/USA_DB** directories on a Mac OS X workstation, as NFS shared points.

How to set up NFS exports on Mac OS X 10.7 and 10.6

1. From the Finder, go to **Application > Utilities** and double-click on **Terminal**.
2. Create and edit the **exports** file in the **/etc** directory:

   ```
   sudo vi /etc/exports
   ```

3. Press **i** to enter the **insert** mode and type the following:

   ```
   /USA_DB -maproot=nobody
   /USADATA -maproot=nobody
   ```

4. Press Esc to exit the insert mode, then type **:wq** to write the file and exit **vi**.
5. Verify that the file is correct by running:

   ```
   sudo nfsd checkexports
   ```

   If there is no return response, then it is correct.
6. Start **nfsd**:

   ```
   sudo nfsd enable
   ```

7. If **nfsd** was already started, notify the **nfsd daemon** that the **/etc/exports** file has changed:

   ```
   sudo kill -1 `cat /var/run/mountd.pid`
   ```

The back quote (`) character is located at the top-left of the Mac OS X keyboard on the same key as the tilde (~) character. Or simply reboot the computer.

8. Verify that the folders exported correctly:

   ```
   /usr/bin/showmount -e
   ```

   The following should appear:

   ```
   /USA_DB Everyone
   /USADATA Everyone
   ```

   Once the export file is created, client systems can mount **/USA_DB** and **/USADATA** located on the Mac OS X server system.

Setting Up the Server for Windows Clients

If Windows clients are going to access the Toon Boom Harmony 11.1 database on a Mac OS X server, you must set up the Link Server, Samba and the server.ini file. These allow the server and clients to communicate and share data.

- *Configuring and Starting the Link Server* on page 73
- *Configuring Samba on Mac OS X 10.6 and 10.7* on page 74
- *Configuring the server.ini File* on page 78
- *Rebooting the Server* on page 79

Configuring and Starting the Link Server

If you are running Toon Boom Harmony 11.1 in a mixed environment where the server is on Mac OS X and some of the clients are running Windows, you must start the Link Server, which makes it possible for Windows machines to communicate with the database.

How to configure the Link Server on the server in a mixed network environment

1. If you did not already install the Link Server during the server installation, you must do it now. From the Finder, go to **Applications > Toon Boom Harmony 11.1 > Tools**.
2. Double-click on the **Configuration Assistant**.
3. Select **Create the Startup Items** and deselect the other options.
4. Click **Continue**.
5. In **Create Startup Item**, select **Create Link Server Startup Item**.
6. Click **Create**.
7. Enter a user name and password of a user with administrator rights and click **OK**.
8. To start the Link Server, restart the server or type the following in the Terminal.

   ```
   sudo /sbin/SystemStarter start ToonBoomLinkServer
   ```

   A message appears in the Terminal indicating that the script was successful.

9. A log file is generated in **`/Library/Logs/ToonBoomLinkServer.log`**. Check this file to make sure there are no errors.

Configuring Samba on Mac OS X 10.6 and 10.7

Do the following:

- *Configuring the Samba Service* on page 74
- *Configuring the Samba Shared Files* on page 76
- *Configuring the smb.conf File* on page 77

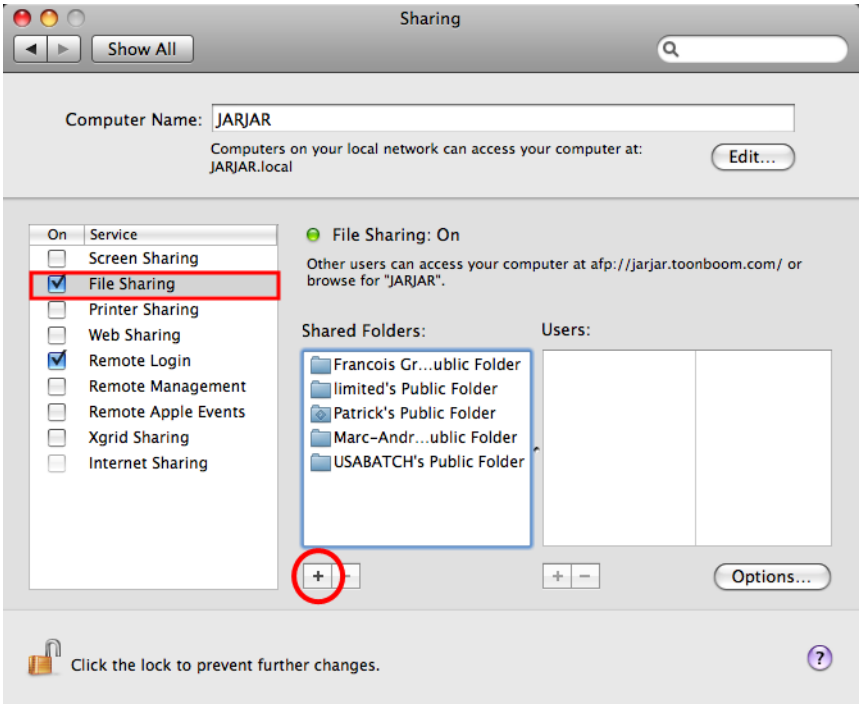
Mac OS X 10.7 (Lion) no longer uses the open source Samba software to share folders for Windows workstations. It has been replaced by Apple's own Windows file sharing software, which does not include some of the options required to support WindowsHarmony clients.

Configuring the Samba Service

By default, Samba is not set up to run automatically on Mac OS X.

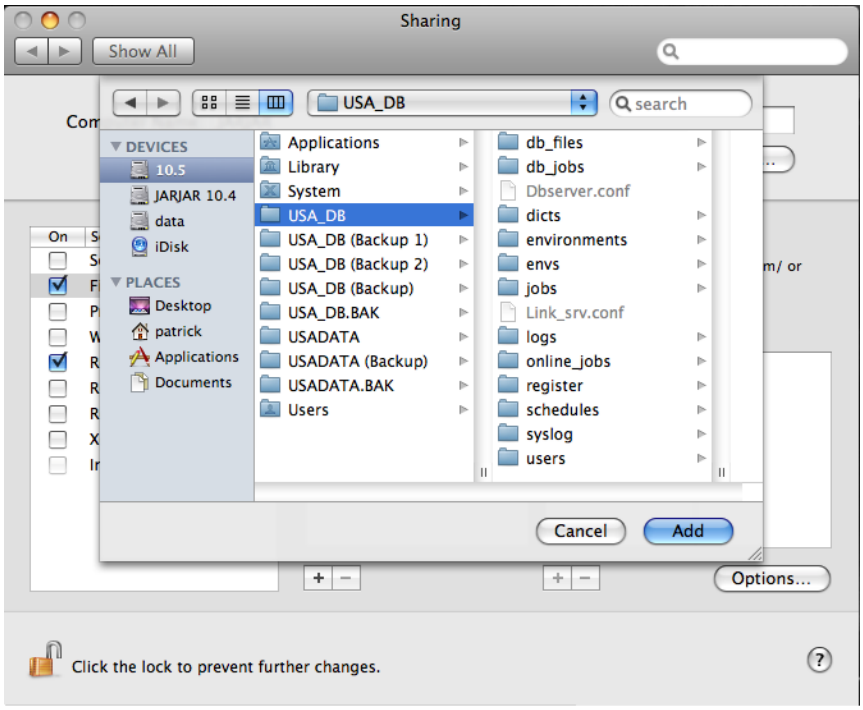
How to start the Samba service

1. Open **System Preferences**.
2. In the Internet & Wireless section, click **Sharing**.
3. In the Services section, select the **File Sharing** option.

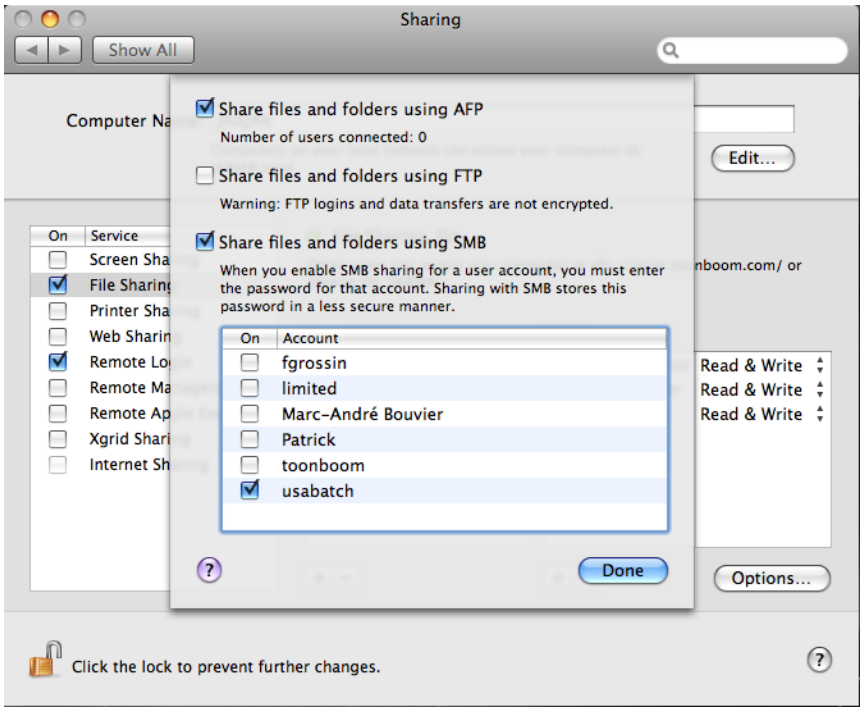


4. In the Shared Folders section, click the plus (+) sign.

5. Browse and select the **/USA_DB** folder.



6. Repeat steps 4 and 5 for the **/USADATA** folder.
7. Make sure to give the **usabatch** account Read and Write permissions to the **USA_DB** and **USADATA** folders.
8. Click **Options**.
9. Select the **Share files and folders using SMB** option.



10. Select the **usabatch** option and click **Done**.

11. Close **System Preferences**.

Configuring the Samba Shared Files

Next, modify the **/USA_DB** and **/USADATA** shares in the **/var/db/samba/smb.shares** and add a **usa** section to the file.

1. Open the Terminal.
2. In the Finder, go to **Application > Utilities** and double-click on **Terminal**.
3. Go to the **samba shares** directory:

```
cd /var/db/samba/
```

4. Open the **smb.shares** file.

```
sudo vi smb.shares
```

5. Press **i** to enter the **insert** mode.
6. Add or modify options in the file.

   The following is an example of entries in the **smb.shares** shared file. You can add missing options at the end of the list.

```
[USA_DB]
comment = Harmony database folder
path = /USA_DB
available = yes
guest ok = no
directory mask = 777
create mask = 777
browseable=yes
read only=no
[USADATA]
comment = Harmony USADATA filesystem
path = /USADATA
available = yes
guest ok = no
directory mask = 777
create mask = 777
browseable=yes
read only=no
```

7. Create a **[USA]** share by making a copy of the **[USA_DB]** section and pasting it underneath.
8. Rename [**USA_DB**] to [**USA**].

9. Modify the following lines under **[USA]**:

```
path = /Applications/Toon Boom Harmony 11.1/tba
comment = Harmony binaries and configuration files
```

10. Verify that the **[USA]** section looks like the following:

```
[usa]
comment = Harmony binaries and configuration files
path = /Applications/Harmony 11.1/tba
available = yes
guest ok = no
directory mask = 777
create mask = 777
browseable = yes
read only = no
```

11. Press Esc and type **:wq** to save the changes and quit the **vi** editor.

Configuring the smb.conf File

You must also add or modify the following entries to the [**global**] section of the **/etc/smb.conf** file.

1. Create a backup copy of your current **/etc/smb.conf** file:

```
cd /etc
sudo cp smb.conf smb.conf.bak
```

2. Open the **smb.conf** file.

```
sudo vi /etc/smb.conf
```

3. Press **i** to enter the **insert** mode.
4. Add or modify options in the file:

```
[global]

map to guest = Never

dos charset = 437
unix charset = UTF-8-MAC
display charset = UTF-8-MAC

blocking locks = false
oplocks = false
```

```
mangled names = no
```

When set to **no**, the **mangled names** parameter will prevent older smb clients (DOS, Win9X and Windows NT clients) from accessing files and folders that do not have an 8.3 file name.

5. Press Esc to quit the **insert mode**.
6. Type **:wq** to save the changes and quit the text editor.
7. Verify that you have not made any basic syntax errors:

   ```
   testparm
   ```

8. Notify the **smbdservice** of the changes:

   ```
   sudo kill -1 `cat /var/run/smbd.pid`
   ```

The back quote (`) character is located at the top-left of the Mac OS X keyboard on the same key as the tilde (~) character. Or simply reboot the computer.

Configuring the server.ini File

Before you install Toon Boom Harmony 11.1 on Windows clients, you must create the **server.ini** file on the server. The **server.ini** file provides information necessary in Windows for the **Configuration Wizard** to set up a Windows client.

When creating the server.ini file, be attentive to spelling, character spacing and case.

How to create the server.ini on the Mac server

1. In the Finder, go to **Application > Toon Boom Harmony 11.1 > Tools** and double-click on the **Configuration Editor**.
2. In the Configuration Editor opens, click the **server.ini** tab.
3. Copy and paste the following example and modify it accordingly:

   This is an example of the **server.ini** file whose server name is **harmonyserver**. Also there is one directory named **USADATA**.

   ```
   [WizardConfig]

   ServerName=harmonyserver

   InstallationDrive=C
   ```

```
UsaShare=usa

UsadbDrive=C

UsadbShare=USA_DB

FileSystem0=C USADATA harmonyserver
```

The references to the C: drive in this example are necessary for Windows clients and will be ignored by Mac OS X.

4. From the File menu, select **Save** and quit the Configuration Editor.

Rebooting the Server

At this point, reboot the server so all of the services which you have just configured will start up.

Configuring Harmony Clients

The following procedure demonstrates how to mount the **/USADATA** and the **/USA_DB** server directories, on a Mac OS X 10.6 or 10.7 workstation, as NSF Shared points.

To mount NFS Export on Mac OS X 10.6 and 10.7, clients do the following:

- *Renaming Existing /USA_DB and /USADATA Directories* on page 80
- *Configuring the Mounts Using the Disk Utility* on page 80

Renaming Existing /USA_DB and /USADATA Directories

This only applies if you already have a **/USA_DB** and a **/USADATA** local directory.

Before starting, you must rename these directories if you want to keep their contents.

How to rename the local /USA_DB and /USADATA directories

1. Open the Terminal.
1. From the Finder, go to **Application > Utilities** and double-click on **Terminal**.
2. Rename the local **USA_DB** and **USADATA** directories:

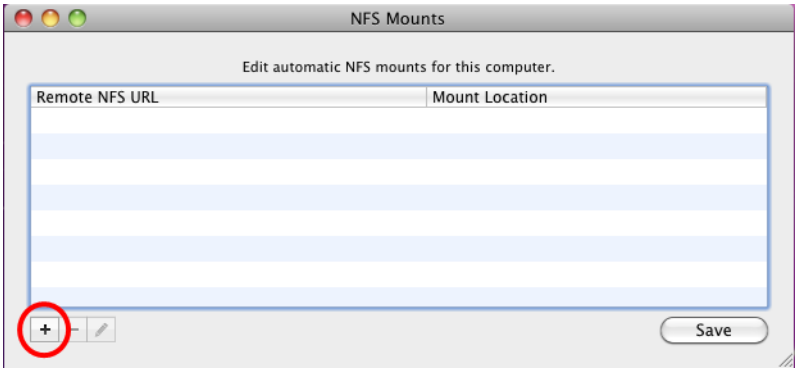
```
sudo mv /USA_DB /USA_DB.BAK
sudo mv /USADATA /USADATA.BAK
```

Configuring the Mounts Using the Disk Utility

How to configure the mounts using the Disk Utility

1. In the Finder, go to **Application > Utilities** and double-click on **Disk Utility**.
2. In Disk Utility, click on **File > NFS Mounts**.

   The NFS Mounts window opens.



3. In NFS Mounts screen, click the plus (**+**) button on the lower-right corner.
4. In the **Remote NFS URL** field, type the following line. Replace [server name] by the name of the server. For example, if the server name is **`jarjar`**, you would type: **`nfs://jarjar/USA_DB`**.

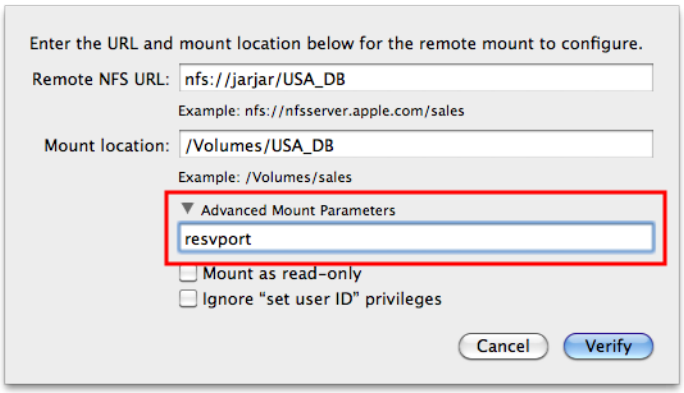
   `nfs://[server name]/USA_DB`

5. In the Mount Location field, type the following:

   `/Volumes/USA_DB`

6. If the workstation is going to connect to a Linux server, edit the **Advanced Mount Parameters**:

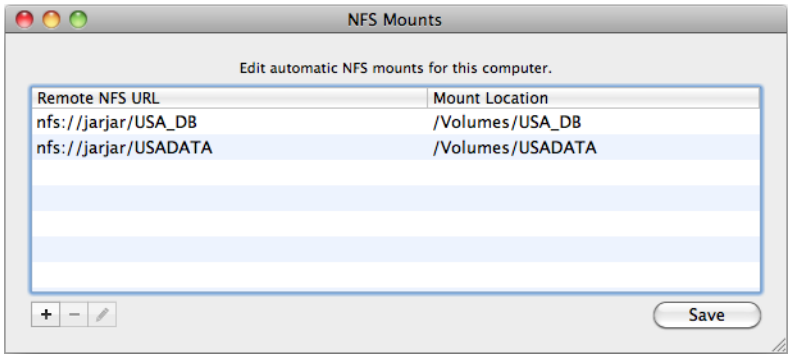
   `resvport`



7. Click **Verify**.
8. Click **OK** on the message that confirms that the NFS server is functional.
9. Repeat steps 3 to 8, but enter the following for the Remote NFS URL and Mount Location:

   `nfs://[server hostname]/USADATA`

   `/Volumes/USADATA`



10. Click **Save** and enter your user password to confirm the changes.

Note that on Mac OS X 10.7 there is no Save button. Changes are automatically saved and applied when the NFS Mounts window is closed.

---

11. Quit the **Disk Utility**.
12. Open a new Terminal window.
13. Verify that the **/USA_DB** and **/USADATA** shared points have been mounted properly:

```
ls /Volumes/USA_DB
```

and

```
ls /Volumes/USADATA
```

14. Create symbolic links to the **USA_DB** and **USADATA** directories at the root level **/**

```
sudo ln -s /Volumes/USA_DB /USA_DB
sudo ln -s /Volumes/USADATA /USADATA
```

15. Verify that the symbolic links are pointing to the right directories:

```
ls -l /
```

The symbolic links for the **/USA_DB** and **/USADATA** should look like the following:

```
USADATA -> /Volumes/USADATA
USA_DB -> /Volumes/USA_DB
```

Troubleshooting

If you have any problems running Harmony after the installation, review the installation and configuration instructions to make sure you have followed them completely. If you continue to have problems, consult the following list to troubleshoot some common problems.

Problem: Unable to Open Sample Scene on Clients

On the Toon Boom Harmony 11.1 server, verify the following:

- The database and data directories were exported using NFS.
- Link Server, Samba and server.ini configurations for Windows clients.
- On Mac OS XToon Boom Harmony 11.1 clients, verify that the database and data directories were mounted using NFS.

Problem: License Error When Starting Any Harmony Module

If you are getting license errors when you start a Toon Boom Harmony 11.1 module, verify the setup and configuration of the license service.

How to verify the setup and configuration of the license service

1. If you are using a license server, verify that the **`license.dat`** file is in the following directory: **`/usr/local/flexlm/licenses`**
2. Open the **`license.dat`** file. It should contain the following:

```
SERVER this_host 0 ANY

VENDOR toonboom

USE_SERVER
```

On a client workstation, the license server hostname should be on the first line instead of **`this_host`**.

---

3. On the Mac license server, open the **Activity** monitor and make sure that the lmgrd and Toon Boom processes are running. If both of them are missing, start the license service by typing the following in the Terminal:

```
sudo /sbin/SystemStarter start ToonBoomLicense
```

   This line should appear followed by messages from lmgrd:

```
Starting Toon Boom License Daemon...
```

4. If you get an error message when you try to start the license service, it is possible that you did not install the license Startup Item. Use the **LicenseWizard** to install the license server Startup Item.

5. If you continue having problems with the license server, locate the file **`ToonBoomLicense.log`** and send it to support@toonboom.com. The file is located in: **`/Library/Logs`** and can be accessed from the Console application.

Problem: Unable to Import Sample Scene (Errors with the Dbserver)

- Verify the **`ToonBoomDatabaseServer.log`** file located in **`/Library/Logs`**. You can access the file in the Console application. If there is no log file, restart the Dbserver. Type the following in the Terminal:

```
sudo /sbin/SystemStarter start ToonBoomDatabaseServer
```

If there is a log file, the last few lines will give you some indication as to the problem with the Dbserver.

- If you get an error in the log about the machine name, verify the **`/USA_DB/Dbserver.conf`** file and make sure the hostname matches the machine name of the Toon Boom Harmony 11.1 server.
- If you get errors about the port number, another service might be using port **`5680`**. You can change the port number in **`Dbserver.conf`** to any unused number above 5000.
- Restart the Dbserver. Type the following in the Terminal:

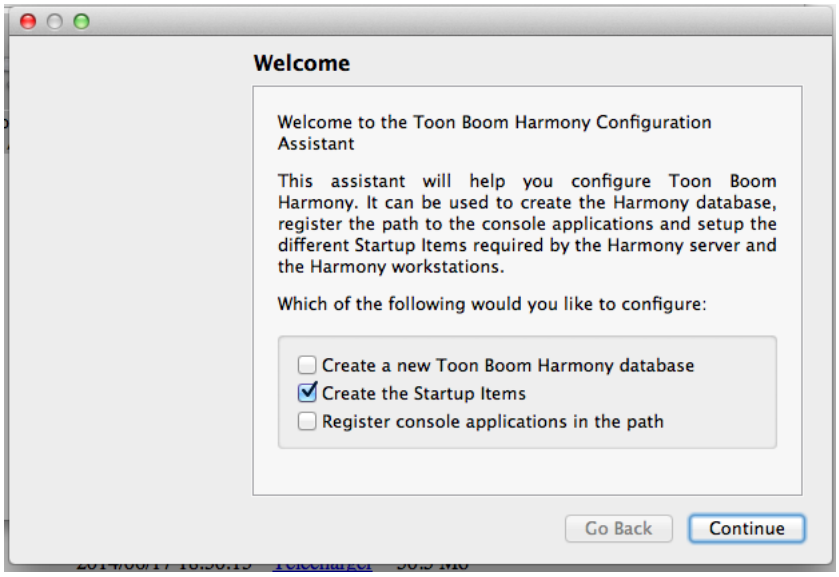
```
sudo /sbin/SystemStarter start ToonBoomDatabaseServer
```

Chapter 4: Installing Harmony Cloud on Mac OS X

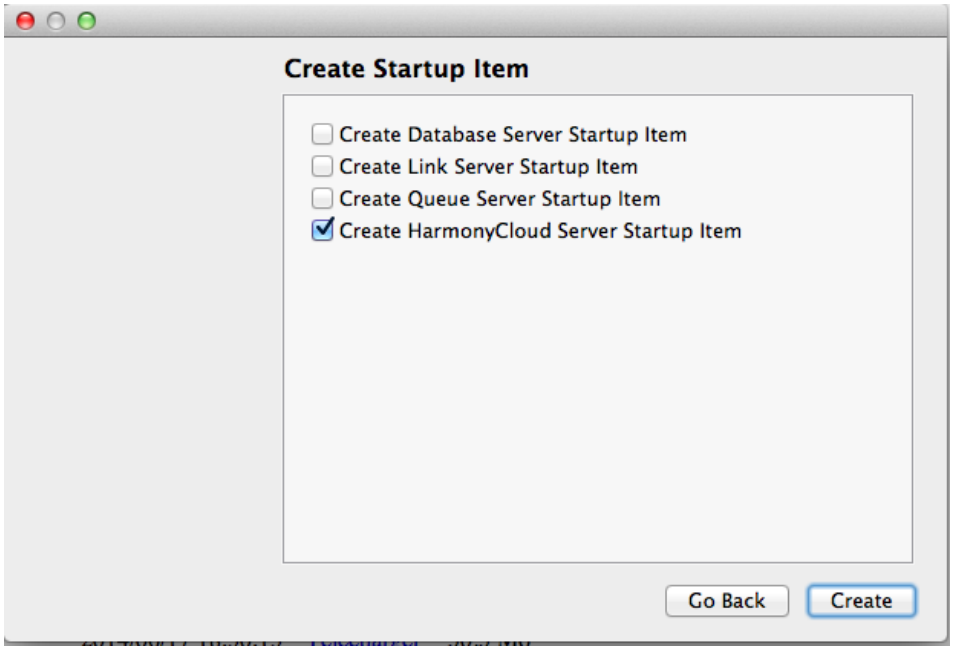
Configuring Toon Boom Harmony Cloud

How to install Harmony Cloud as a service

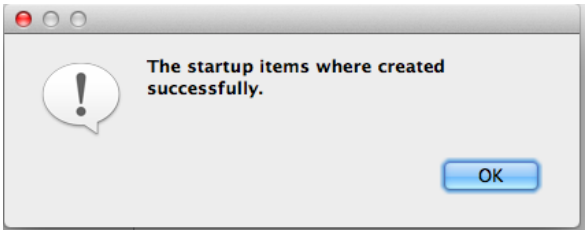
1. From Finder, go to **Applications > Toon Boom Harmony 11.1 > Tools**.
2. Double-click on **Configuration Assistant**.
3. Select the **Create the Startup Items** option and click **Continue**.



4. Select the **Create Harmony Cloud Server Startup Item** option and click **Create**.

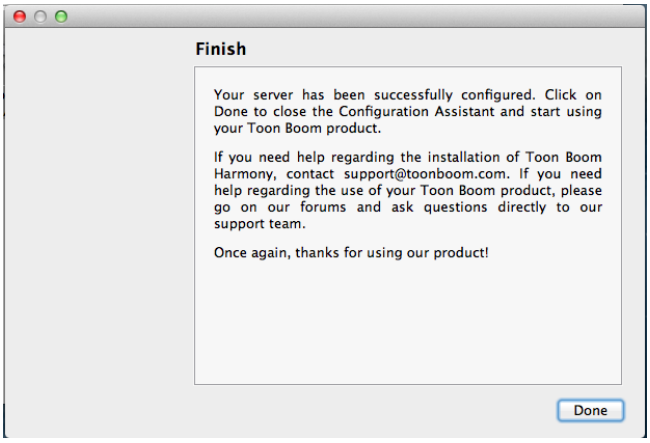


A message box confirms that the server has been successfully installed.



5. Click **OK**.

   The Finish window opens.



6. Click **Done**.
7. Open the Terminal and start the service:

```
sudo SystemStarter start ToonBoomHarmonyCloudServer
```

Customizing the Harmony Cloud Service

You have the ability to customize the Harmony Cloud service. This can be done using your favourite text editor.

How to customize the Harmony Cloud service

1. Stop the service if it is active—see *Managing the Harmony Cloud service* on page 87.
2. Open this file:

```
sudo vi
/Library/StartupItems/ToonBoomHarmonyCloudServer/ToonBoomHarmonyC
loudServer
```

3. Locate the **StartService()** function.
4. Edit the line:

```
sudo -u usabatch "$USADIR/macosx/bin/HarmonyCloud_starter"
"$USADIR/macosx/bin/HarmonyCloud" --pid-file
$USABATCHHOME/ToonBoomHarmonyCloudServer.pid --docroot
"$USADIR/resources/cloud" --http-port 8080 --http-address 0.0.0.0
--threads 10 --config "$USADIR/resources/cloud/wt_config.xml"
```

```
2>>/Library/Logs/ToonBoomHarmonyCloudServer.log
>>/Library/Logs/ToonBoomHarmonyCloudServer.log &
```

Where the available parameters for modification are:

- --http-port: The port to deploy to
- --http-addressIPv4 (example: 0.0.0.0) or IPv6 Address (example: 0::0)
- --threadsnumber: Number of threads

5. Save and close the file.
6. Start the Service—see *Managing the Harmony Cloud service* on page 87.

Running Harmony Cloud Manually

If you do not want to run Harmony Cloud as a service, you have the option to manually start the Harmony Cloud server.

How to manually run Harmony Cloud

1. Open the Terminal and navigate to **/Applications/Toon Boom Harmony 11.1/tba/macosx/bin**.
2. Run **./HarmonyCloud.sh**.

You can change the default port used by Harmony Cloud by modifying the **`HarmonyCloud.sh`** file. Use your favourite text editor to open the file and change the value of the –http-port parameter. See bolded text below:

./HarmonyCloud --docroot ../../resources/cloud --http-address 0.0.0.0 --http-port **8080** --config ../../resources/cloud/wt_config.xml

---

Managing the Harmony Cloud service

If at any point you need to start/stop or restart the Harmony Cloud server, you can do so through the SystemStarter in Mac OS X.

To start the service	**`sudo SystemStarter start ToonBoomHarmonyCloudServer`**
To stop the service	**`sudo SystemStarter stop ToonBoomHarmonyCloudServer`**
To restart the service	**`sudo SystemStarter restart ToonBoomHarmonyCloudServer`**

Alternatively, you can start or stop all Harmony Services with the following commands:

To start all services	**`/Applications/`**Toon Boom Harmony 11.1**`/tba/macosx/bin/Startus can be used to start all services`**
To stop all services	**`/Applications/`**Toon Boom Harmony 11.1**`/tba/macosx/bin/Stopus can be used to stop all services`**

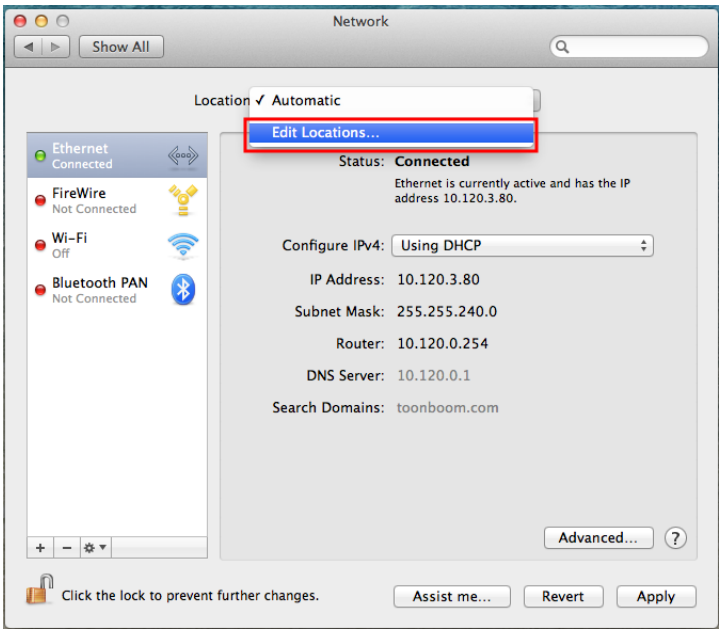
Network Setup

Setting Up a static IP

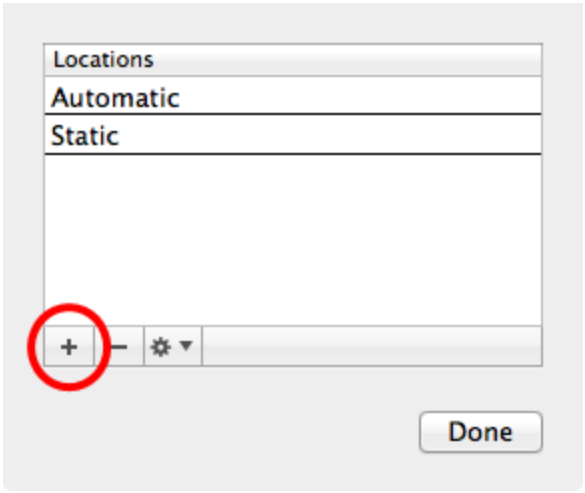
You will need to set up a static IP for accessing the Harmony Cloud application.

How to set up a static IP

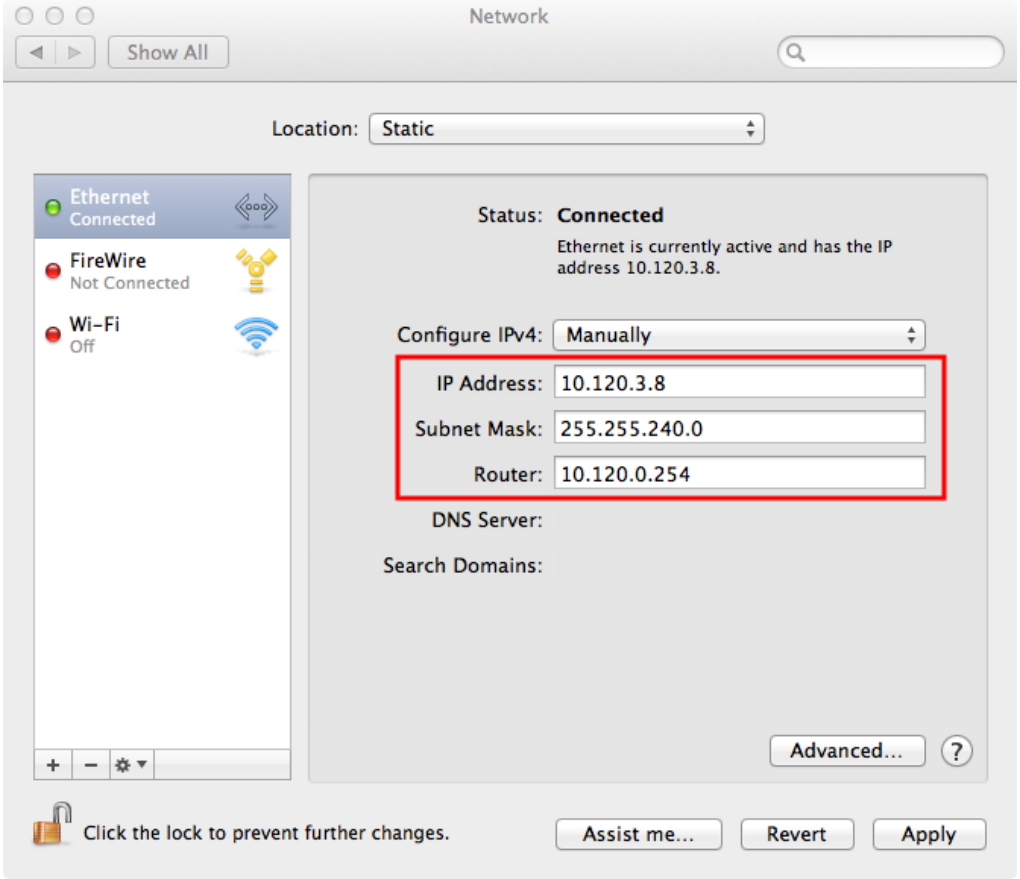
1. Open the **System Preferences** window.
2. Click **Network**.
3. From the Location menu, select **Edit Locations.**



4. Click the plus sign (+) and enter an appropriate name. Click **Done**.



5. Configure your static IP with information pertaining to your connection and click **Apply**.

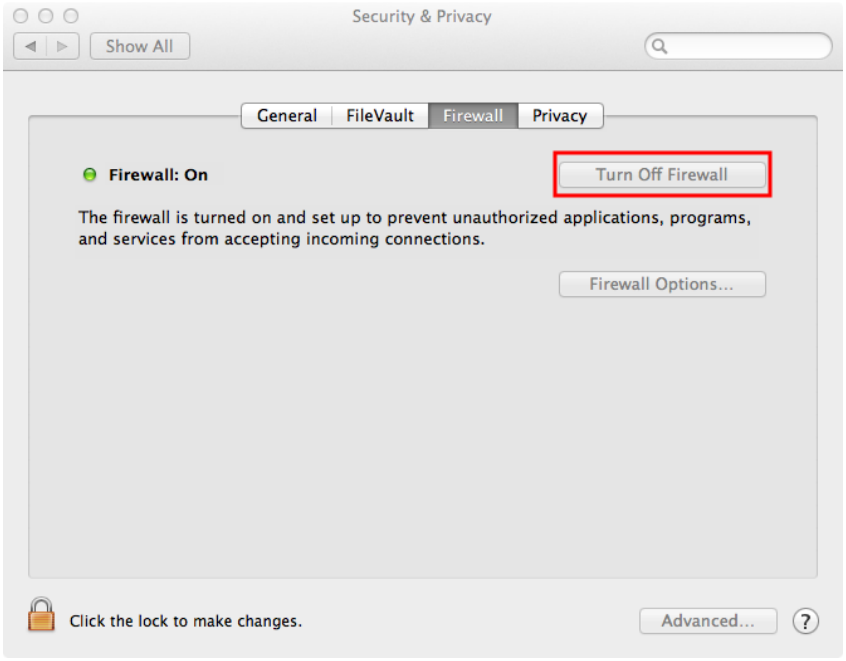


Opening a Port for External Connection

To allow other computers to access your Harmony Cloud server, it is necessary to open a port in your firewall. Harmony Cloud uses port 8080 by default.

How to open a port for external connection

1. Open the **System Preferences** window.
2. Click **Sharing**.
3. Click the lock icon at the bottom of the window to enable editing.
4. Enter your password when prompted.
5. Select the Web Sharing option.
6. Click **Security**.
7. Click the lock icon at the bottom of the screen to enable editing.
8. Enter your password when prompted.
9. Click **Turn Off Firewall**.



10. Close the System Preferences window.

Chapter 5: Installing on Linux

This chapter explains how to install Toon Boom Harmony 11.1 on Linux Fedora, and assumes that you are familiar with Linux and working in a command shell.

Throughout this document, you will be creating files using a text editor. The **vi** text editor is commonly used and is part of the Fedora package. Another text editor you can use is **nano**. To start them, just type their name on the command line.

There are three stages required to install Harmony, which are covered in the following topics:

1. *Pre-installation* on page 92
2. *Installing a New System* on page 106
3. *Configuration* on page 109

After completing these steps, verify the integrity of the installation and resolve any configuration issues.

Pre-installation

Before installing Harmony, you must perform the following tasks:

Verifying the Minimum Requirements

For the minimum hardware requirements, visit: toonboom.com/products/harmony-stand-alone/tech-specs.

For the most current Toon Boom Harmony hardware requirements, refer to the *Harmony and Your IT Department* white paper available from:

- Toon Boom Animation Sales Representative
- Toon Boom Animation Support at: support@toonboom.com.

Obtaining the Product Activation Code

You should obtain a product activation code from the Toon Boom licensor, so you can finish the installation process without having to wait for the activation code to arrive.

To obtain a Harmony 11.1 activation code, send the following information to: licensor@toonboom.com.

- Your name and the name of your company
- Email address where to send the license file

Checking Your Pre-installation Configuration

Configure your computer before installation by performing the following tasks:

Installing Fedora

Following are some considerations for Fedora Linux installation. Explaining how to install Fedora Linux is beyond the scope of this document—refer to the Fedora documentation.

How to Install Fedora

1. Download the Fedora Linux documentation from:
   `http://docs.fedoraproject.org/`

2. Before installing Linux, make sure the distribution you will be installing is 64-bit. Harmony 11.1 will not work if the OS is not 64-bit.
3. When installing Fedora Linux, perform a **Custom** installation and select to install **Everything** to ensure that you get all the packages necessary to run Harmony.
4. When prompted, select **Firewall as disabled**. Your file server should be behind a firewall, but not be configured as one.
5. When prompted, select **SELinux as disabled**.

   Harmony has been tested and certified for use on the KDE windows manager.

   Harmony works best with a minimum screen resolution of 1280 pixels x1024 pixels x 24-bit. If Fedora cannot detect your monitor, configure the monitor as a generic CRT or an LCD with this resolution and a 60 Hz refresh rate. Alternatively, consult your monitor manufacturer's documentation.

   If you are new to Linux, it is recommended that you create a boot disk to facilitate recovery.

Disabling SELinux

How to disable SELinux

1. Verify if SELinux is enabled by reviewing the contents of the SELinux config file:

   ```
   more /etc/selinux/config
   ```

2. Locate the line that starts with **SELINUX=** and verify that the value is set to disabled:

   ```
   This file controls the state of SELinux on the system.
   SELINUX= can take one of these three values:
      enforcing - SELinux security policy is enforced.
      permissive - SELinux prints warnings instead of enforcing.
      disabled - No SELinux policy is loaded.
   SELINUX=disabled
   SELINUXTYPE= can take one of these two values:
       targeted - Targeted processes are protected.
       mls - Multi Level Security protection.
   SELINUXTYPE=targeted
   ```

3. If the value is set to something other than **disabled**, open the file using a text editor and change the value to **disabled**.
4. Once the file is modified and saved, reboot the computer.

Updating the NVIDIA Drivers

You must install the recommended drivers for your NVIDIA video card, otherwise Harmony will not function.

In general, you should use the latest drivers. New drivers tend to resolve past driver issues. If you already have NVIDIA drivers installed, find the version number by typing:

```
cat /var/log/Xorg.0.log | grep "X Driver"
```

How to install the NVIDIA driver

1. Download the Linux driver from the NVIDIA website:

   www.nvidia.com/object/unix.html

2. As a root user, switch to text mode when installing video card drivers.

   ```
   /sbin/init 3
   ```

3. Install the NVIDIA kernel driver.

   ```
   sh /[path_to_driver_file]/NVIDIA-Linux-x86_64-[driver_name].run
   ```

4. Once the NVIDIA driver installation is successful, revert to graphical mode by starting X.

   ```
   /sbin/init 5
   ```

   OR

   ```
   startx
   ```

Some recent Linux distributions include an open source driver for NVIDIA graphic cards called "Nouveau". This driver must be disabled in order to install the NVIDIA drivers—refer to the NVIDIA documentation.

Upgrading From a Previous Version of Toon Boom Harmony

At this point, it is assumed that the USAnimation, Opus or Toon Boom Harmony binaries (program files) are installed on the Toon Boom Harmony server and are mounted by all the Linux clients. When you update the installation on the server, all clients will load the new binaries from the central mount point.

When upgrading previous installations of USAnimation, Opus or Harmony, pick a time when Harmony production is slow or stopped. During the upgrade, no users can run any of the Harmony or Opus modules and all rendering jobs must be completed.

How to update previous installations

1. Verify that no one is running any versions of USAnimation, Opus or Toon Boom Harmony. All of their modules must be closed on the server and all the clients.
2. Verify that all batch rendering and vectorizing are completed or that the queues are empty. You can check the status of Vectorize and Render queues from the Control Center module.
   - In the Control Center module, use the Queue menu, **Environment > Vectorize Queue** or **Render Queue** to open the Vectorize queue or Rendering queue for each environment. The queue should either be empty or the status of all jobs should be **Completed**.
3. Stop all services running on the server and the clients. Depending on the services you have running, type the following commands in the order presented:

   ```
   /etc/init.d/USAnimation_queues stop
   /etc/init.d/USAnimation_link_srv stop
   /etc/init.d/USAnimation_dbserver stop
   /etc/init.d/USAnimation_flexlm stop
   ```

   It is not necessary to delete the startup scripts from **`/etc/init.d/`** as the Harmony install script will update them automatically.

   - It is important to stop the queues on all rendering machines. If the queues are running, those binaries will be locked and the installer cannot update them.

4. Back up Harmony's configuration files by copying them to a location where you can recover them later. Go to the folder where the previous version of Harmony is installed and back up the configuration files in the **`etc`** folder:
   - **Version 7.5 and earlier**: **`/usa/etc`**
   - **Version 7.8 and later:** **`/usr/local/ToonBoomAnimation/harmony_[version]/etc`**

   Back up the following configuration files:

   `Manager.conf`

   `Scan.conf` (If a scanner was configured to run with the Harmony Scan module on this computer)

server.ini (If the server is configured to receive connections from Windows clients)

VectOptions.conf (If a vectorization preset had been added to it)

If plug-ins were added to the Harmony installation, back up these files as well.

- **Version 7.5 and earlier**: **/usa/lnx86/plugins**
- **Version 7.8 and 9.2**: **/usr/local/ToonBoomAnimation/harmony_[version] /lnx86/plugins**
- **Version 10.0 and later: /usr/local/ToonBoomAnimation/harmony_[version] /lnx86_64/plugins**

You can back up the entire Harmony folder by renaming it to make sure all config files are kept.

5. Clean the KDE menu. The shortcut to start the previous application should be removed from the KDE menu. There are two ways to do this::
   - Use the KDE Menu Editor which you can start from the KDE menu. The location will vary depending on the version of Linux installed.
   - Delete them from the command line by doing the following:

     Change to:

     /usr/share/applnk/cd/usr/share/applnk/

     Delete the old shortcuts:

     Version 7.5 and earlier: **rm USAnimation-***

     Version 7.8 and later: **rm ToonBoom-Harmony_***

     The shortcuts will be removed from the KDE menu the next time you log in.
6. Uncompress the distribution file:

   tar xvfz [path_to_distribution_file]/[filename].tar.gz
7. Switch to the directory that was extracted from the **tar.gz** file.
8. Run the install script specifying the options required for your server.
   ./install -b -d -l -p -u - kde

Parameter	Description
-b	This is mandatory. This installs the binaries required to run Harmony.
-c	Installs Harmony Cloud as a service. This parameter is required if this machine is the Harmony Cloud web server.
-d	Configures the tbdbserver for auto startup. Required when installing a server.
-l	Configures the Link_srv for auto-startup. Required if the server has Windows clients.
-p	Configures the tbprocess for auto-startup. Required if the server will perform batch processing.
-u	Updates the dict files in the **/USA_DB/dicts**. This is mandatory when upgrading a server from a version previous to Toon Boom Harmony 11.1. This option will only work if **-d** is also selected.
-kde	Installs Harmony menu shortcuts in the KDE menu.

Restoring Backed Up Files

1. Copy the **server.ini**, **Manager.conf** and any other files you backed up to the new installation: **/usr/local/ToonBoomAnimation/Harmony_11.1/etc/**

Editing usabatch's .cshrc

Before you can start the Harmony services, you must make modifications to the **.cshrc** in **usabatch**'s home.

How to edit the usabatch's .cshrc

1. If you are not logged in as **usabatch**, type the following:

```
su - usabatch
```

2. Open the **.cshrc** file in usabatch's home:

```
vi .cshrc
```

3. Edit **.cshrc.**

```
if ( -f /usr/local/ToonBoomAnimation/harmony_11.1/etc/usa_cshrc ) then
source /usr/local/ToonBoomAnimation/harmony_11.1/etc/usa_cshrc
endif


umask 0
```

4. Save and quit.

Editing Other Users' .cshrc

The **.cshrc** of all other users of Harmony should be edited to remove the lines that are used to source the **usa_cshrc** file. It is not required to source this file any longer as the path to the application was added to the PATH variable via the files in **/etc/profile.d**.

1. Remove the following line if it exists:

   Versions 7.8 and 9.2:

```
source /usr/local/ToonBoomAnimation/harmony_[version]/etc/usa_cshrc
```

   Version 7.3:

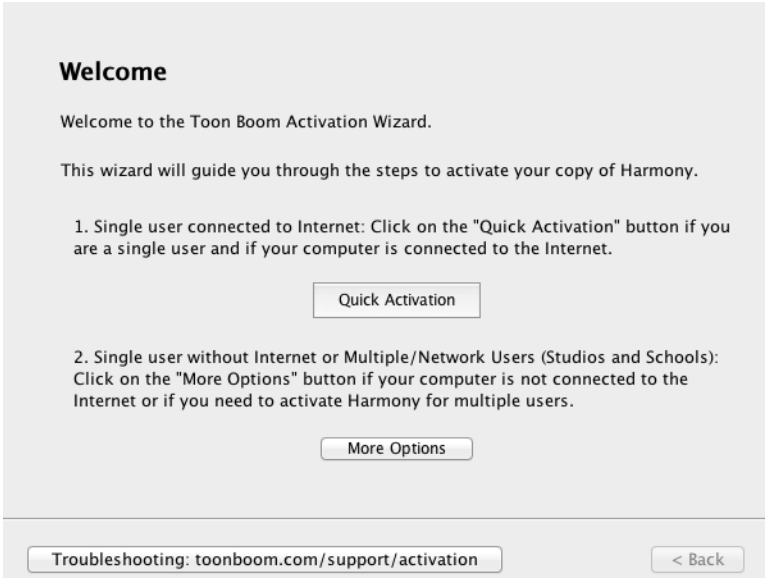
```
source /usa/etc/usa_cshrc
```

Editing the /etc/skel/.cshrc

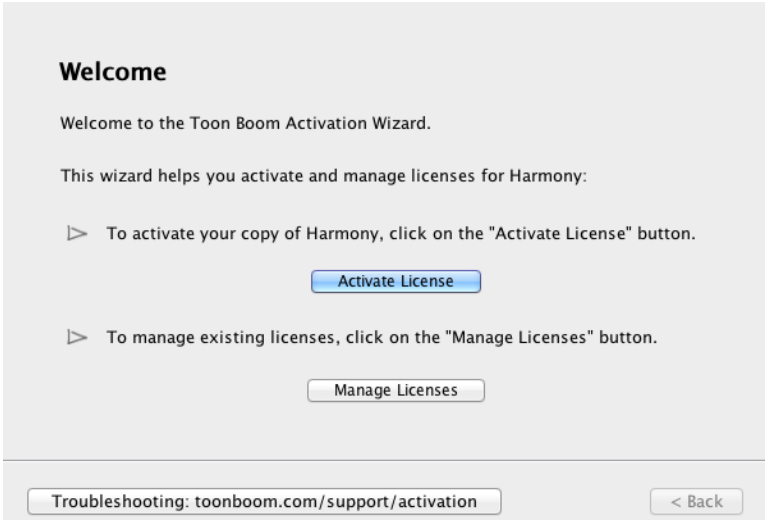
1. Open the file **/etc/skel/.cshrc** (if it exists) and remove the lines that source the **usa_cshrc** file.

Configuring the License Server

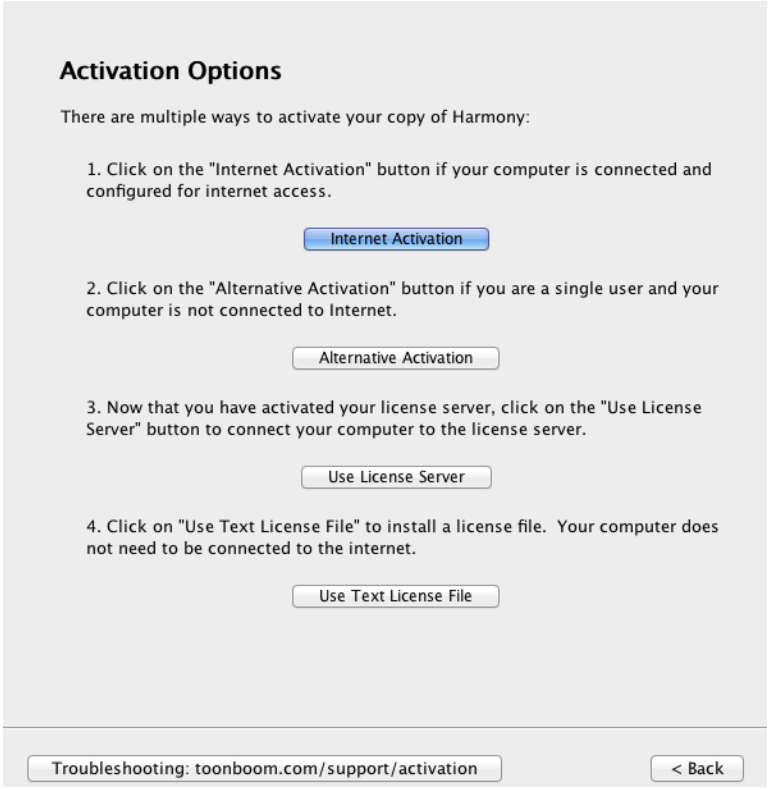
1. Depending on how the License Wizard was started, the first page will be as follows:
   - If this screen appears, click **More Options**.



- If this screen appears, click **Activate License.**

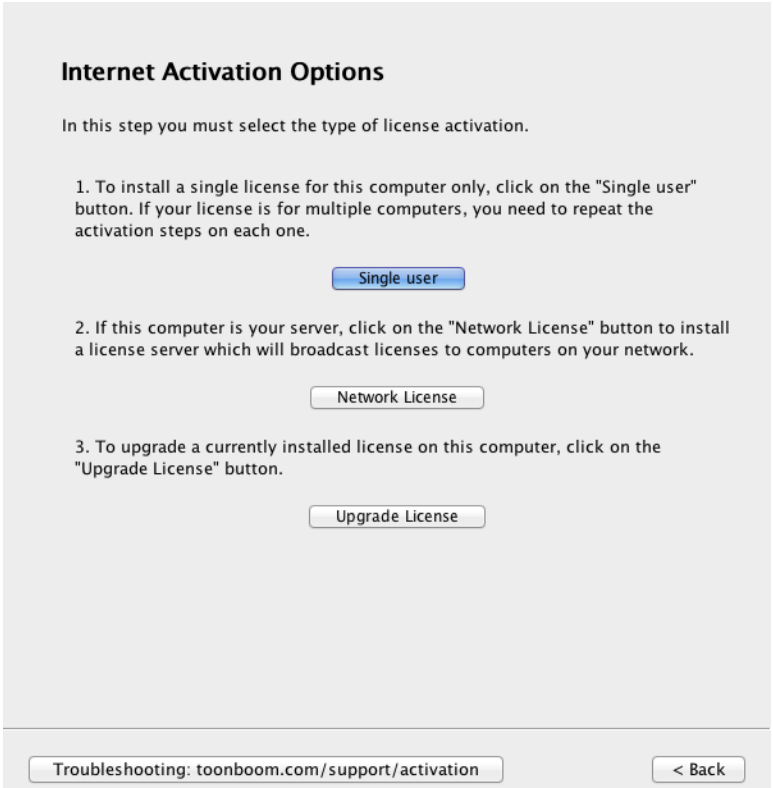


The Activation Options screen appears.



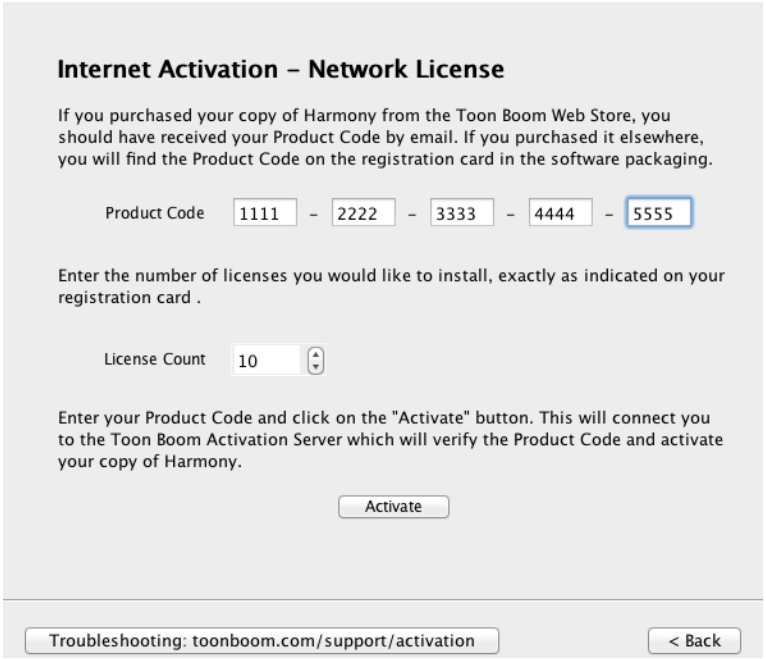
2. Click **Internet Activation**

   The Internet Activation Options screen appears.



3. Click **Network License.**

   The Internet Activation - Network License screen appears.



4. In the Product Code fields, enter your product code.
5. In the License Count field, enter the number of licenses the product code grants you.

> Once activated and returned to the activation server, a server license cannot be activated again. Make sure you are activating the license on the correct computer with the proper license count.

6. Click **Activate**.

   The Install License Server screen appears.

7. Click **Install License Server**.
   The **license.dat** file is created in **/usr/local/flexlm/licenses/license.dat.** The License Server is also configured and started.

   The **license.dat** created contains the following:

   ```
   SERVER this_host 0 ANY
   VENDOR toonboom
   USE_SERVER
   ```

8. Click **Finish** to exit the wizard.
9. Verify that the FlexLM license is working properly:

   ```
   lmutil lmstat -a
   ```

   You can can also look at the log:

   ```
   less /tmp/lmgrd.log
   ```

   If the FlexLM service needs to be restarted:

   ```
   /etc/init.d/USAnimation_flexlm restart
   ```

Both steps can be done manually if needed.

- To configure the License Server to start automatically at boot:

  ```
  /sbin/chkconfig/USAnimation_flexlm on
  ```

- To start the License Server manually:

  ```
  /etc/init.d/USAnimation_flexlm restart
  ```

   The Activation Successful screen appears.

10. Click **Finish** to exit the wizard.
11. Verify that the FlexLM license is working properly:

    ```
    lmutil lmstat -a
    ```

    You can can also look at the log:

    ```
    less /tmp/lmgrd.log
    ```

    If the FlexLM service needs to be restarted:

    ```
    /etc/init.d/USAnimation_flexlm restart
    ```

Restarting the Harmony Services

How to restart the Harmony services

1. Once the license is properly configured and started, start the Harmony services that are required on your server in the following order:

   ```
   /etc/init.d/USAnimation_dbserver restart
   /etc/init.d/USAnimation_link_srv restart
   /etc/init.d/USAnimation_queues restart
   ```

2. Check the logs to verify that the services started properly.

```
/tmp/lmgrd.log
/tmp/tbdbserver.log
/tmp/tbprocess.log
/tmp/Link_srv.log
```

3. Start Harmony and open a scene to see if the server works properly.

Updating the nfs Export

If the Linux server has Linux or Mac OS X clients, the nfs exports need to be updated with the path of the new Harmony binaries.

```
/etc/exports
```

How to update the nfs export

1. If it exists, change the path of **`/usa to /usr/local/ToonBoomAnimation/harmony_11.1`**

```
/USA_DB *(rw,sync)
/usadata000 *(rw,sync)
/usr/local/ToonBoomAnimation/harmony_11.1 *(rw,sync)
```

2. Run the following command so the change takes effect:

```
/usr/sbin/exportfs -r
```

3. Test the exports:

```
/usr/sbin/showmount -e
Export list for [hostname].toonboom.com:
/USA_DB *
/usadata000 *
/usr/local/ToonBoomAnimation/harmony_11.1 *
```

Updating the smb.conf

How to update the smb.conf file

1. When upgrading a Linux server, a small modification must be made to the **`usa`** share path to point to the new install. "**`/etc/samba/smb.conf`**" and change the path under the [usa] share to the path of the new Harmony install.

```
[usa]
comment = Harmony binaries & stuff
browseable = yes
read only = no
guest ok = no
create mask = 0777
```

```
directory mask = 0777

path = /usr/local/ToonBoomAnimation/harmony_11.1
```

2. Once the file is saved, verify that you have not made any basic syntax errors.

```
testparm

Load smb config files from /etc/samba/smb.conf

Processing section "[homes]"

Processing section "[printers]"

Processing section "[USA_DB]"

Processing section "[usa]"

Processing section "[usadata000]"
```

Processing section "[tmp]"

```
Loaded services file OK.

Server role: ROLE_STANDALONE
```

3. Press **Enter** to see a dump of your service definitions.

If the **smb.conf** was configured according to the 7.3 documentation, the **testparm** command may return the following error:

```
Level II oplocks can only be set if oplocks are also set.
```

To get rid of this error, add the **level2 oplocks = No** parameter in the global section of the **smb.conf**—see *Verifying the Parameters Required in the smb.conf File* on page 103 for all the parameters required in the **smb.conf**.

---

4. Restart **smb**:

```
/etc/init.d/smb restart
```

Verifying the Parameters Required in the smb.conf File

It is always a good idea to verify the configuration of the **smb.conf** file.

How to verify the parameters required in the smb.conf file

1. Verify the configuration of the **smb.conf**.

```
/etc/samba/smb.conf
```

Parameters needed in the [global] section:

```
encrypt passwords = no


blocking locks = no

oplocks = no
```

```
level2 oplocks = no


follow symlinks = yes
unix extensions = no
wide links = yes
```

Default parameters for the shares:

```
[USA_DB]
comment = Toon Boom Harmony Database
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /USA_DB


[usa]
comment = Toon Boom Harmony binaries & stuff
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /usr/local/ToonBoomAnimation/harmony_11.1


[usadata000]
comment = Toon Boom Harmony data 000
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /usadata000
```

2. Always perform a **testparm** after making changes to the **smb.conf**.

```
testparm
```

3. Restart the **smb** service.

```
/sbin/service smb restart
```

4. Reboot the server, if possible, to verify that all the services are properly started.
5. Once the server is booted, check all the logs to see if the services are running properly.

```
/tmp/lmgrd.log
/tmp/tbdbserver.log
/tmp/tbprocess.log
/tmp/Link_srv.log
```

Installing a New System

After you have installed Fedora Linux, you must create the **usabatch** user account in which many Toon Boom Harmony services run.

Then you can and install Harmony. There are a number of options you can choose from when installing Harmony.

Creating the usabatch User

With Fedora Linux installed, you will create the **usabatch** user account. You must also set the **usabatch** user to use the **tcsh** shell and create a **.cshrc** file to start the Toon Boom Harmony environment whenever the user logs on.

You must create user accounts for all Toon Boom Harmony users. All user accounts you create on Fedora Linux that will also run Harmony must be set up in the same way as the **usabatch** account, except for the user name and password.

How to create user accounts

1. In a shell, log in as the root user.
2. Using a text editor, create the file **/etc/skel/.cshrc**. This file should contain the following line:

   ```
   umask 0
   ```

   Note: The above character is a zero.
3. Create the user **usabatch**.

   ```
   useradd -m -s /bin/tcsh -r usabatch
   ```
4. Enter the password for user **usabatch**.

   ```
   passwd usabatch
   ```

   Then, type **usabatch** as a password.

To create additional users repeat steps 3 and 4, replacing **usabatch** with the user name and password of the new user.

Setting umask to zero (0) ensures that Toon Boom Harmony users can read and write all files in the database, which is essential for sharing their work.

---

5. If you are not logged in as **usabatch**:

   ```
   su - usabatch
   ```
6. Open the **.cshrc** file in **usabatch**'s home. The **.cshrc** file should contain the following:

   ```
   if ( -f /usr/local/ToonBoomAnimation/harmony_11.1/etc/usa_cshrc )
   then

   source /usr/local/ToonBoomAnimation/harmony_11.1/etc/usa_cshrc
   ```

```
endif


umask 0
```

7. Save and quit.
8. Log out of **usabatch** to return to the root user.

Installing Harmony

In a client-server network or in a standalone setup, you must install Harmony binaries and the following services:

- **Dbserver**: Controls access to the Harmony database.
- **License Service**: Controls the number of licenses and features available to Harmony users.
- **Batch Processing**: If you are setting up the machine for batch processing, this controls batch vectorizing and rendering queues.
- **Link Server**: If you are installing Harmony on a Linux server that will support Windows clients.

To install Harmony binaries and services, you must run the installation script. With the product activation code in hand, you are ready to install Harmony.

How to run the installation script

1. Uncompress the distribution file.

   ```
   tar xvfz [path_to_distribution_file]/[filename].tar.gz
   ```

2. Change to the directory that was extracted from the **tar.gz** file.
3. Run the install script as the root user, specifying the options required for your server. There are a number of options that control the installation process. For a typical Harmony server or a standalone machine, run the installation script with the following parameters:

   ```
   ./install -b -d -kde
   ```

   With these options, the binaries are installed, and the database server is installed and set up to start automatically. These options also add Harmony entries to the KDE application menu.

   If your Linux server will be serving Windows clients, add the **-l** option.

   If you are setting up the clients for batch rendering, add the **-p** parameter. It is not recommended to configure batch processing on the server as it will slow it down.

Installation Options

Option	Default Value	Details
-binaries **-b**	Inactive	Installs binaries and configuration files required to run Harmony applications. Include this option when performing a fresh install or when you upgrade

Option	Default Value	Details
		Harmony. Use option when installing Harmony on the server.
-cloudserver **-c**	Inactive	Installs Harmony Cloud as a service. This parameter is required if this machine is the Harmony Cloud web server.
-dbserver **-d**	Inactive	Installs the **tbdbserver** as a daemon. This is the Harmony database server daemon. It processes data requests from clients on the network. This option also creates a fresh database when there is no **/USA_DB** directory. Use this option when installing Harmony on the server and on the stand-alone machine.
-help **-h**	Inactive	Displays script usage information.
-kde	Inactive	Adds Harmony entries to the KDE application menu.
-linkserver **-l**	Inactive	Installs the **link_server** daemon. This daemon is required for Linux or IRIX servers to create symbolic links for Windows clients. If you have Windows clients, you must install this daemon on the server.

Option	Default Value	Details
-process **-p**	Inactive	Installs the **process** daemon. The **process** daemon manages batch processing (vectorizing and rendering) for Harmony. Usually several computers participate in the batch processing pipeline. This parameter is required if this computer is going to batch process files for Harmony.
-quiet **-q**	Inactive	Does not output any information during installation.
-target <DIRECTORY> **-t <DIRECTORY>**	**/usr/local/ToonBoomAnimation/harmony_11.1**	Directory where the installer will install the **harmony_11.1** tree.
-udatedict **-u**	Inactive	Updates the **dict** files in the database. Needs to be specified when upgrading from a previous version.

Configuration

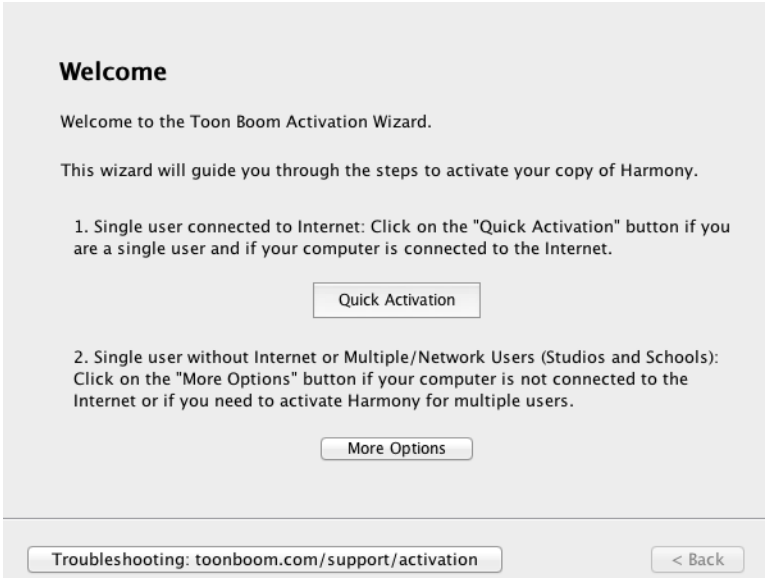
After installing Harmony, configure the database parameters depending on your machine's setup and configure third-party software.

1. *Configuring the Licensing* on page 109
2. *Configuring Harmony* on page 113

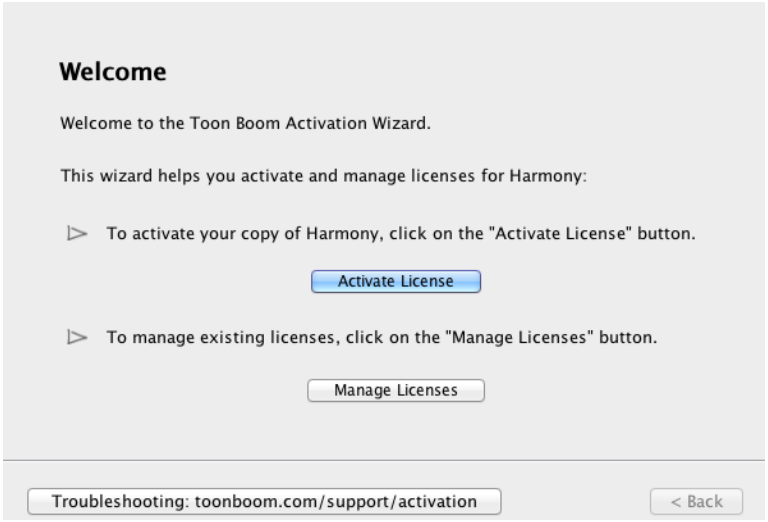
Configuring the Licensing

Now that you have installed Harmony, you must set up the licensing so it can run on the server and client machines.

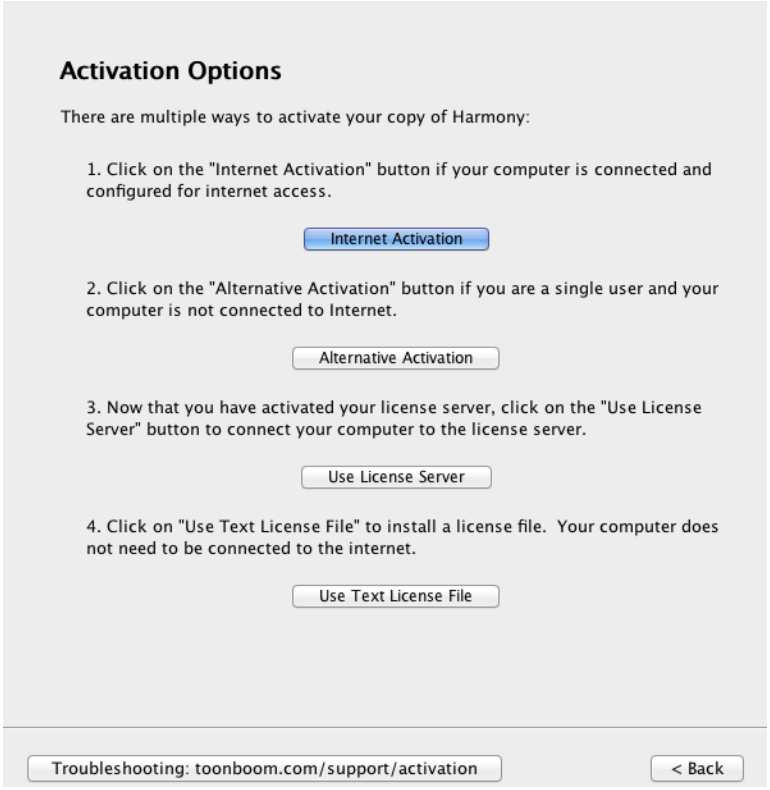
1. Depending on how the License Wizard was started, the first page will be as follows:
   - If this screen appears, click **More Options**.



- If this screen appears, click **Activate License.**

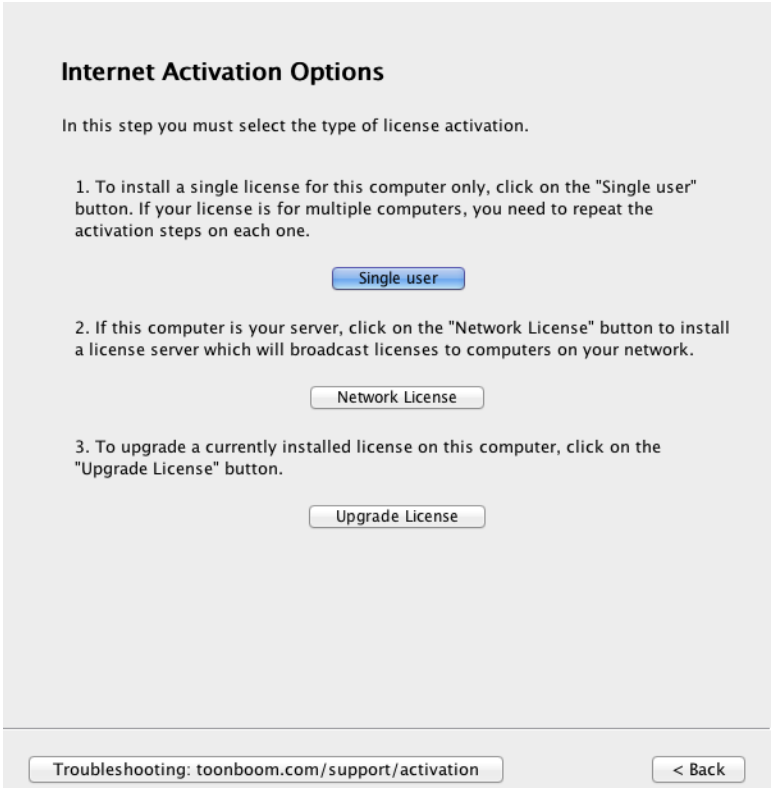


The Activation Options screen appears.



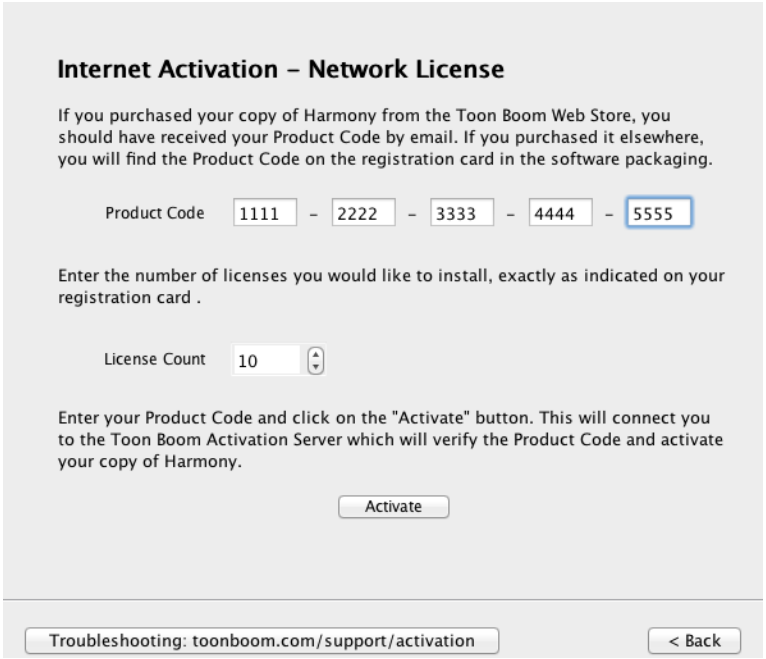
2. Click **Internet Activation**

The Internet Activation Options screen appears.



3. Click **Network License.**

The Internet Activation - Network License screen appears.



4. In the Product Code fields, enter your product code.
5. In the License Count field, enter the number of licenses the product code grants you.

> Once activated and returned to the activation server, a server license cannot be activated again. Make sure you are activating the license on the correct computer with the proper license count.

6. Click **Activate**.

   The Install License Server screen appears.

7. Click **Install License Server**.
   The **license.dat** file is created in **/usr/local/flexlm/licenses/license.dat.** The License Server is also configured and started.

   The **license.dat** created contains the following:

   ```
   SERVER this_host 0 ANY
   VENDOR toonboom
   USE_SERVER
   ```

8. Click **Finish** to exit the wizard.
9. Verify that the FlexLM license is working properly:

   ```
   lmutil lmstat -a
   ```

   You can can also look at the log:

   ```
   less /tmp/lmgrd.log
   ```

   If the FlexLM service needs to be restarted:

   ```
   /etc/init.d/USAnimation_flexlm restart
   ```

Configuring Harmony

After installation, set up the database configuration for computers running Harmony.

1. *Setting Up the Database Server* on page 113
2. *Creating the Toon Boom Harmony File System* on page 114

Setting Up the Database Server

The Dbserver controls all interactions with the contents of the Toon Boom Harmony database. It processes all requests to open, read or update files, keeping track of locked files so they cannot be edited by anyone.

When installing Harmony on the server for the first time, the Harmony database folder is created automatically. Verify that the folder was created correctly. Look for the **USA_DB** folder in the root folder **/USA_DB**. If you do not see the folder, then create it using the **create_usa_db** script:

```
/usr/local/ToonBoomAnimation/harmony_11.1/lnx86_64/bin/create_usa_db
/USA_DB
```

Next, create and edit the **Dbserver.conf** file to set up the Dbserver. Then run a script to start it.

How to set up the Dbserver

1. Using a text editor, create the **Dbserver.conf** file in **/USA_DB/**.
2. Type the following in the **Dbserver.conf** file:

   Assuming the machine name of the Dbserver is **harmonyserver** , the lines in **Dbserver.conf** would look like this:

   ```
   hostname harmonyserver
   port 5678
   debug_port 5680
   ```

You can find the example of **Dbserver.conf** in **/usr/local/ToonBoomAnimation/harmony_11.1/resources/samples**. You can copy and paste it from there and change it accordingly.

3. Save and close the **Dbserver.conf** file.
4. Change the permissions on the **Dbserver.conf** file to 644.

```
chmod 644 Dbserver.conf
```

5. Start the Dbserver service.

```
/sbin/service USAnimation_dbserver start
```

A message appears in the shell indicating that the script was successful. A log file is generated in **/tmp/tbdbserver.log**.

6. Verify the log file to ensure there are no errors written to the log.

Creating the Toon Boom Harmony File System

After you set up and start the license and Dbserver, you are ready to create the file system for the Toon Boom Harmony database.

How to create the Toon Boom Harmony file system

1. Change directories to the root:

```
cd /
```

2. Create the following directory:

```
mkdir usadata000
```

3. Change the permission of:

```
/usr/local/ToonBoomAnimation/harmony_11.1 /USA_DB and /usadata000
to 777.
```

```
chmod -R 777 /usr/local/ToonBoomAnimation/harmony_11.1 /USA_DB
/usadata000
```

You are now ready to test your installation on the server/standalone machine.

Configuring Harmony to Share Scene Data

This section shows you how to share the Harmony scene data for different network configurations.

- *Exporting Harmony Directories for Mac OS X and Linux Clients* on page 114
- *Configuring the Link Server* on page 115
- *Configuring Samba* on page 116

Exporting Harmony Directories for Mac OS X and Linux Clients

Before you can install Harmony on Linux clients, you must export the Toon Boom Harmony directories from the server. The NFS and NFS locking services must be running so that all machines

can access the data directories you export.

How to start NFS services and export data directories from the server

1. To share files with other Linux machines, start the NFS service:

   ```
   /etc/init.d/nfs restart
   /sbin/chkconfig nfs on
   ```

   - If you are using Fedora 16:

     ```
     systemctl start nfs-server.service
     /sbin/chkconfig nfs-server on
     ```

2. The NFS lock manager must run on all Linux stations on your network. Without this service, users cannot access the database without receiving numerous "read lock" error messages.

   ```
   /etc/init.d/nfslock restart
   /sbin/chkconfig nfslock on
   ```

   - If you are using Fedora 16:

     ```
     systemctl start nfs-lock.service
     /sbin/chkconfig nfs-lock on
     ```

   Now you are ready to export the Toon Boom Harmony directory.

3. Use a text editor to edit the **/etc/exports** file. Add the names **/USA_DB**, **/usadata000** and **/usr/local/ToonBoomAnimation/harmony_11.1** directories to the file:

   ```
   /USA_DB *(rw,sync)
   /usadata000 *(rw,sync)
   /usr/local/ToonBoomAnimation/harmony_11.1 *(rw,sync)
   ```

4. Run the export command to finalize the exports:

   ```
   /usr/sbin/exportfs -r
   ```

5. Verify what is being exported from the server:

   ```
   /usr/sbin/showmount --exports
   ```

   A report appears listing all the shares exported from the server.

Configuring the Link Server

If you are running Harmony in a mixed environment where the server is on Fedora Linux and some of the clients are running Windows, you must start the Link Server.This server makes it possible for Windows machines to communicate with the database.

How to configure the Link Server on the server in a mixed network environment

1. Use a text editor to create the **Link_srv.conf** file in the **/USA_DB** directory. This file must contain the following:

```
hostname harmonyserver

port 5679
```

Replace **harmonyserver** with the name of the database server. You can find the name of a computer by using the **uname -n** command.

You can find the example of **Link_srv.conf** under **/usr/local/ToonBoomAnimation/harmony_11.1/resources/samples/**. Copy and paste it from there and change it accordingly.

---

2. Change the permissions on the **Dbserver.conf** file to **644**.

```
chmod 644 Link_srv.conf
```

3. Start the Link Server.

```
/etc/init.d/USAnimation_link_srv start
```

A message appears in the shell indicating that the script was successful. A log file is generated in **/tmp/Link_srv.log**.

4. Verify this file to ensure there are no errors written to it.

Configuring Samba

Finally, modify the **/etc/samba/smb.conf** file. To do this, add entries for each database directory you want to share with Windows clients in the **/etc/samba/smb.conf** file. Then, add options to the **[global]** section of the file.

- *Configuring the Samba Service to Start at Boot Time* on page 118
- *Configuring the server.ini File* on page 118
- *Rebooting* on page 119
- *Setting Up Linux Clients* on page 119
- *Installing the Start Application Menu Entries and Batch Processing on Clients* on page 120

The following is an example of entries in the **smb.conf** file. You can add these to the end of the file.

```
[USA_DB]

comment = Toon Boom Harmony Database

browseable = yes

read only = no

guest ok = no

create mask = 0777

directory mask = 0777

path = /USA_DB

[usa]

comment = Toon Boom Harmony binaries & stuff
```

```
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /usr/local/ToonBoomAnimation/harmony_11.1
[usadata000]
comment = Toon Boom Harmony data 000
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /usadata000
[usadata001]
comment = Toon Boom Harmony data 001
browseable = yes
read only = no
guest ok = no
create mask = 0777
directory mask = 0777
path = /usadata001/
```

You must also add or modify the following entries to the **[global]** section of **smb.conf**:

```
[global]
encrypt passwords = no

blocking locks = no
oplocks = no
level2 oplocks = no

follow symlinks = yes
unix extensions = no
wide links = yes
```

5. Once you have made all the changes and saved the **smb.conf** file, validate the file for internal correctness:

```
testparm
```

Configuring the Samba Service to Start at Boot Time

By default, Samba is not set up to run automatically.

How to start the Samba service

1. Configure Samba to run as a service at boot time:

```
/sbin/chkconfig smb on
```

2. Start the Samba service:

```
/sbin/service smb start
```

Configuring the server.ini File

Before you install Harmony on Windows clients, you must create the **/usr/local/ToonBoomAnimation/harmony_11.1/etc/server.ini** file on the database server. The **server.ini** file provides information necessary for the Windows Configuration Wizard to set up a Windows client.

When creating the **server.ini** file, pay attention to the spelling, character spacing and case.

The following is an example of the **/usr/local/ToonBoomAnimation/harmony_11.1/etc/server.ini** file. In this example, the database server name is **harmonyserver** and there are two **usadata** directories: **usadata000** and **usadata001**.

```
[WizardConfig]

ServerName=harmonyserver

InstallationDrive=C

UsaShare=usa

UsadbDrive=C

UsadbShare=USA_DB

FileSystem0=C usadata000 harmonyserver

FileSystem1=C usadata001 harmonyserver
```

Do not worry about the references to **Drive = C**. They are necessary for Windows clients and will be ignored by Linux.

You can find the example of **server.ini** under

/usr/local/ToonBoomAnimation/harmony_11.1/resources/samples. You can copy and paste it from there and change it accordingly.

Any sharing folder name should be case sensitive.

Rebooting

At this point, you should reboot the Toon Boom Harmony server to verify that all the Harmony services are properly configured to start automatically.

Setting Up Linux Clients

To run Toon Boom Harmony on Linux clients, you must mount the binaries and data directories stored on the server. To access the directories exported from the server, the network file server (NFS) and NFS locking services must be running.

How to start NFS services and mount Toon Boom Harmony directories on clients

1. To access the mounted directories, start the NFS service:

   ```
   /etc/init.d/nfs restart
   ```

   ```
   /sbin/chkconfig nfs on
   ```

   If you are using Fedora 16:

   ```
   systemctl start nfs-server.service
   ```

   ```
   /sbin/chkconfig nfs-server on
   ```

2. The NFS lock manager must run on all Linux stations on your network. Without this service, users cannot access the database without receiving numerous "read lock" error messages.

   ```
   /etc/init.d/nfslock restart
   ```

   ```
   /sbin/chkconfig nfslock on
   ```

   If you are using Fedora 16:

   ```
   systemctl start nfs-lock.service
   ```

   ```
   /sbin/chkconfig nfs-lock on
   ```

   You are now ready to mount the directories from the server.

3. On each client computer, create directories for:

   ```
   /usr/local/ToonBoomAnimation/harmony_11.1
   ```

   ```
   /USA_DB
   ```

   ```
   /usadata000
   ```

   The directory names must match the names on the Toon Boom Harmony server.

   ```
   mkdir /usr/local/ToonBoomAnimation/harmony_11.1
   ```

```
mkdir /USA_DB

mkdir /usadata000
```

4. To mount the directories on the client machine, edit the **/etc/fstab** file. In the following example, the **server** is the machine name of the database server.

```
server:/USA_DB /USA_DB nfs rw,soft,intr,bg 0 0

server:/usadata000 /usadata000 nfs rw,soft,intr,bg 0 0

server:/usr/local/ToonBoomAnimation/harmony_11.1
/usr/local/ToonBoomAnimation/harmony_11.1 nfs rw,soft,intr,bg 0 0
```

   This will make the Toon Boom Harmony directories mount with the default version of NFS on your system.

   If you encounter errors, try using NFS version 2. In this case, you should modify the **fstab** file to match the following:

```
server:/USA_DB /USA_DB nfs rw,soft,intr,bg,vers=2 0 0

server:/usadata000 /usadata000 nfs rw,soft,intr,bg,vers=2 0 0

server:/usr/local/ToonBoomAnimation/harmony_11.1
/usr/local/ToonBoomAnimation/harmony_11.1 nfs
rw,soft,intr,bg,vers=2 0 0
```

5. At a command line, type the mount all command.

```
mount -av
```

   To verify that all shares are mounted:

```
mount
```

   A report appears listing all the shares mounted on the client.

6. To test that the mount works, open one of the mounted directories and list the contents.

```
cd /usr/local/ToonBoomAnimation/harmony_11.1

ls
```

   A list appears of the directories in Harmony 11.1:

```
etc help lang lnx86 lnx86_64 Plugins resources
```

Installing the Start Application Menu Entries and Batch Processing on Clients

To make it easier for users to start Toon Boom Harmony, install the application menu entries for KDE. You should also include the **-p** installation option to start batch processing services on rendering machines.

How to install menu entries and batch processing

1. Go to the directory that contains the Linux installation files.
2. Run the **install** script with the **-p** and **-kde** options.

```
./install -p -kde
```

Troubleshooting

If you have any problems running Harmony after installation, review the installation and configuration instructions to verify that you have followed them completely. If you continue to have problems, consult the following list to troubleshoot common installation and configuration problems.

License Error When Starting Any Harmony Module

If you are getting license errors when you start a Toon Boom Harmony module, verify the setup and configuration of the license service.

How to verify the setup and configuration of the license service

1. If you are using a license server, verify that the **`license.dat`** file is in the following directory: **`/usr/local/flexlm/licenses`**
2. Open the **`license.dat`** file. It should contain the following:

```
SERVER this_host 0 ANY

VENDOR toonboom

USE_SERVER
```

On a client workstation, the license server hostname should be on the first line instead of **`this_host`**.

---

3. Verify that the license service is running on the license server.

```
/sbin/service USAnimation_flexlm status
```

4. If it is not running, start the service.

```
/sbin/service USAnimation_flexlm start
```

5. Restart the Dbserver if the license server was not properly installed or activated.

```
/sbin/service USAnimation_dbserver restart
```

6. If you continue having problems with the license server, locate the file **`lmgrd.log`** and send it to support@toonboom.com. This file is usually in **`/tmp`**.

Unable to Import Scene (Errors with the Dbserver)

- Verify the **Dbserver.log** file. It is usually stored in **/tmp**.

  If there is no log file, restart the Dbserver.

  ```
  /sbin/service USAnimation_dbserver restart
  ```

If there is a log file, the last few lines in the file will give you an indication as to the problem with the Dbserver.

- If you get an error in the log about the machine name, verify the **/USA_DB/Dbserver.conf** file and make sure the hostname matches the machine name of the Harmony server.
- If you get errors about the port number, verify that the port name in the **Dbserver.conf** file is not used by another service. Type **netstat -a** to see a list of port numbers used by the machine. If another service is using port **5678**, change the port number in **Dbserver.conf** to any unused number above 5000.
- Restart the Dbserver.

  ```
  /sbin/service USAnimation_dbserver restart
  ```

Exported Directories Not Mounting on Clients

On most Fedora Linux distributions, the **ypbind** service is started after **nfs** by default. This causes directory mounting to fail when your system boots up. This will prevent Linux clients from mounting Toon Boom Harmony directories from the server.

You must verify that the **ypbind** service is started before **nfs**.

How to configure the start sequence of ypbind and nfs

1. Turn the service off and remove it from the startup configuration.

   ```
   /sbin/service ypbind stop
   ```

   ```
   /sbin/chkconfig ypbind off
   ```

2. Edit the **ypbind** startup script located in **/etc/init.d/ypbind**. Find the following line:

   ```
   chkconfig: 27 73
   ```

   Change it to:

   ```
   chkconfig: 24 73
   ```

3. Restart the service.

   ```
   /sbin/service ypbind start
   ```

   ```
   /sbin/chkconfig ypbind on
   ```

Harmony Stage Will Not Open or Crashes on Startup

Periodically, Harmony Stage does not open and displays an NVIDIA error message in the shell. This may not happen all the time. Users may report this error after running the application several times successfully.

The NVIDIA error message directs users to instructions in the Readme file:

/usr/share/doc/NVIDIA_GLX-1.0/README.txt

Problems with the security module of the PAM system can cause these periodic problems. Follow the instructions in the NVIDIA Readme to resolve this error.

If you continue to experience problems, verify that the **xorg.conf** file (in **/etc/X11/)** contains the correct driver information (the driver should be **nvidia**, not **nv**).

If this does not resolve the problem, reinstall your NVIDIA driver.

Unable to Display Images in Harmony Stage

Your monitor's screen settings must be set to 24-bits per pixel.

Verify your current settings.

- If you are using Fedora, verify the file **/etc/X11/xorg.conf**.

Unable to Open Scene on Linux Clients

- On the Harmony server, verify that all the Harmony directories were exported. The /**USA_DB**, **/usr/local/ToonBoomAnimation/harmony_11.1,** and /**usadata** directories must appear in the **/etc/exports** file. Verify that the entries in this file match the name of the directories you created on the server.

  Verify that the directories have been exported.

  ```
  /usr/sbin/exportfs -r
  ```

- On the Linux client, verify that you created the data directories and mounted the server directories into those directories. Verify the **/etc/fstab** file to see that the data directories are listed and spelled the same way as the directories on the client and the server.

  List the contents of the mounted directories to see that there are some contents.

  ```
  cd /usr/local/ToonBoomAnimation/harmony_11.1

  ls
  ```

  A list appears of the directories in **/harmony_11.1**. They are:

  ```
  etc help lang lnx_86 lnx86_64 Plugins resources
  ```

- If you do not see anything in the exported directories, verify that the server directories are mounted.

  ```
  mount -a
  ```

  If you are able to list the contents of the exported directories and open the sample scene after manually mounting all shares, verify the start up sequence of **ypbind** and NFS to verify that NFS is started first—see *Exported Directories Not Mounting on Clients* on page 122.

Resolving Keyboard Shortcut Conflicts and Tweaking KDE

Some KDE default keyboard shortcuts conflict with the shortcuts in Harmony and can prevent normal user operation.

How to change the keyboard shortcuts and tweak KDE

1. In the KDE menu, select **Computer > System Settings**. In earlier versions of KDE, you may need to open the KDE Control Center.
2. In the System Settings window, select **Windows Behavior** in the Desktop section (in earlier versions of KDE, open the **Look & Feel > Window Behavior** menu instead).
3. Select the **WindowActions** tab.
4. In the Inner window, title bar and frame section, do one of the following:
   - Change your keyboard layout to choose Meta key from the Modifier Key option. The Meta key is the Windows Start button on a 104-key keyboard. You must have this type of keyboard to use this option.
     Go to **Desktop > Window Behavior** (in earlier versions, open the Look & Feel > Window Behavior menu). Select the **Actions** tab. In the Inner window, title bar and frame section, select **`Meta`** as the Modifier Key.
   - If the Meta key is not available in the Modifier Key list, you must change your keyboard layout. This is set in **Control Center > Regional and Accessibility > Keyboard Layout** (in earlier versions, open the **Control Center > Peripherals > Keyboard** menu). Select the **Enable keyboard layouts** option and then select a Keyboard Model that includes 104 keys.
   - Set all the Modifier Key + options to **`Nothing`**.
5. There are a few KDE preferences you should update to optimize Harmony.
   - In the KDE menu, select **Computer > System Settings > Window Behavior**. Select the **Moving** tab to disable these two options. Harmony reacts better and faster when these are disabled.
   - Display content in moving windows
   - Display content in resizing windows
   - In the KDE menu, select **Computer > System Settings > Appearance** and select the **Colors** menu. Under the Options tab, disable the following option: **Apply colours to non-KDE4 applications**.

This option may cause Toon Boom Harmony to display incorrect colours in some of the interface controls.

Chapter 6: Installing Harmony Cloud on Linux

Before installing Harmony Cloud, add the following to the options list:

Option	Default Value	Details
`-cloudserver` `-c`	Inactive	Installs Harmony Cloud as a service. This parameter is required if this machine is the Harmony Cloud web server.

Configuring the Licensing

Setting Up in a Non-Gui Environment

How to install Harmony Cloud on a Linux server with no GUI

1. Contact Toon Boom support to request a copy of the Flexnet Publisher anchor script (install_fnp.sh) and the FlexNet Publisher Licensing Service (FNPLicensingService).
2. Place both files in the **`bin`** directory of your Harmony install. Typically located here:

   ```
   /usr/local/ToonBoomAnimation/harmony_11.1/lnx86_64/bin
   ```

3. Change the permissions on the anchor script to be executable:

   ```
   chmod 755 install_fnp.sh
   ```

4. Execute the install_fnp.sh script

   ```
   ./install_fnp.sh
   ```

5. Execute the following command to install the license:

   ```
   ServerActivation -batch -served -comm soap -commServer
   https://licensing.toonboom.com:443/flexnet/services/ActivationServi
   ce -entitlementID XXXX-XXXX-XXXX-XXXX-XXXX
   ```

6. Type the activation key next to **`-entitlementID`** to replace the Xs.

Configuring Toon Boom Harmony Cloud

Running Harmony Cloud as a Service

After installing Harmony Cloud, you will need to start the service.

How to start Harmony Cloud as a service

1. Run the following command as the root user:

   ```
   /sbin/service USAnimation_harmony_cloud start
   ```

Customizing the Harmony Cloud Service

You have the ability to customize the Harmony Cloud service. This can be done using your favorite text editor.

How to customize the Harmony Cloud Service

1. Stop the service if it is active—see *Managing the Harmony Cloud Service* on page 127.
2. As the root user, open the following file:

   ```
   /usr/sbin/start_harmony_cloud
   ```

3. At the bottom of the file, edit the line:

   ```
   exec HarmonyCloud_starter \

   HarmonyCloud –docroot  ../../resources/cloud –http-port 8080 –
   http-address 0.0.0.0 \

   --threads 1- --config ../../resources/cloud/wt_config.xml \

   >>& $log < /dev/null &
   ```

   Where the available parameters for modification are as follows:

   - --http-port the port to deploy to
   - --http-addressIPv4 (e.g. 0.0.0.0) or IPv6 Address (e.g. 0::0)
   - --threadsnumber of threads
4. Save and close the file.
5. Start the service—see *Managing the Harmony Cloud Service* on page 127.

Running Harmony Cloud Manually

If you do not want to run Harmony Cloud as a service, you can manually start the Harmony Cloud server.

1. Using the Terminal, navigate to:

   ```
   /usr/local/ToonBoomAnimation/harmony_11.1/lnx86_64/bin
   ```

2. Run the following:

   ```
   ./HarmonyCloud.sh
   ```

You can change the default port used by Harmony Cloud by modifying the **HarmonyCloud.sh**. Open the file using a text editor and update the value of the parameter –http-port to the desired value. See the following text:

```
./HarmonyCloud --docroot ../../resources/cloud --http-address
0.0.0.0 --http-port 8080 --config ../../resources/cloud/wt_
config.xml
```

The above parameters can be customized—see *Customizing the Harmony Cloud Service on page 126*.

Managing the Harmony Cloud Service

If at any point, you need to start/stop or restart the Harmony Cloud server. You can do so through the **/sbin/service** in Linux.

To start the service	**/sbin/service USAnimation_harmony_cloud start**
To stop the service	**/sbin/service USAnimation_harmony_cloud stop**
To restart the service	**/sbin/service USAnimation_harmony_cloud restart**

Alternatively, you can start or stop all Harmony Services with the following commands:

To start all services	**/usr/local/ToonBoomAnimation/**harmony_11.1**/lnx86_64/bin/Startus**
To stop all services	**/usr/local/ToonBoomAnimation/**harmony_11.1**/lnx86_64/bin/Stopus**

Network Setup

Setting Up a Static IP

How to set up a static IP for Red Hat, Fedora or CentOS

1. Edit the file /etc/sysconfig/network:

   /etc/sysconfig/network

2. Configure the file as follows; replacing the bolded text with your values:

   NETWORKING=yes

   HOSTNAME=**cloud.toonboom.com**

3. Depending on your network card, open the configuration file. For example, if you are using **eth0**, then you would edit the file **/etc/sysconfig/network-scripts/ifcfg-eth0.**

   /etc/sysconfig/network-scripts/ifcfg-eth0

4. Configure the file as follows, replacing the bolded text with your values:

   DEVICE=eth0

   BOOTPROTO=static

   IPADDR=**174.142.76.72**

   NETMASK=**255.255.240.0**

   GATEWAY=**10.120.0.254**

   ONBOOT=yes

5. Edit the following file:

```
/etc/resolv.conf
```

6. Configure the file as follows, replacing the bolded text with your values:

   search **toonboom.com**

   nameserver **10.120.0.1**

7. Restart the network service:

```
/etc/init.d/network restart
```

Opening a Port for External Connection

It is necessary to open a port in your firewall to allow other computers to access your Harmony Cloud server. Harmony Cloud is using port 8080 by default.

How to open a port for Red Hat, Fedora or CentOS

1. Edit the following file:

```
/etc/sysconfig/iptables
```

2. Append the following rule to the file to open port 8080:

```
-A RH-Firewall-1-INPUT –m state –state NEW –m tcp –p tcp –dport
8080 –j ACCEPT
```

3. Save and close the file.
4. Restart the **iptables** service:

```
service iptables restart
```