

## UPGRADING SOFTWARE ON A SMARTENGINE CLUSTER (running software version 4.x)

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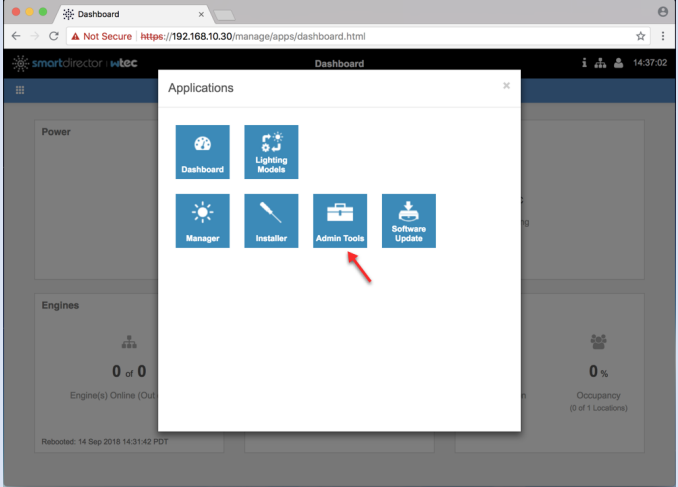
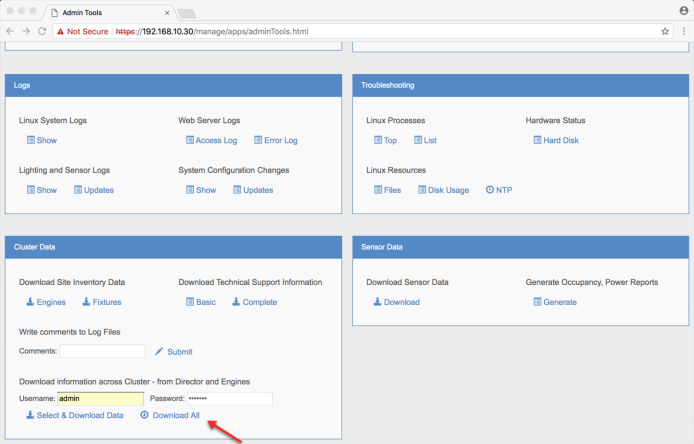
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## INTRODUCTION:

The smartDirector Management software allows a user an easy way to upgrade the software version on the entire cluster with little downtime.

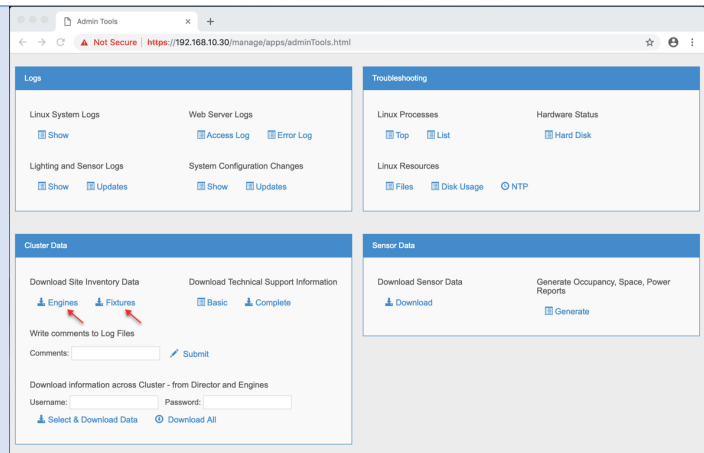
## PRE-REQUISITES:

Prior to performing any software upgrades, it is a **best practice** (and highly recommended) to download critical pieces of information from the system/cluster. In this example, the smartDirector-led cluster is running **version 4.3.1** of the software. These steps will illustrate what a user should download before upgrading. We are assuming the newer **4.3.2 software** image has already been acquired by the user from wtec.

Steps to follow	This is what you will see
<p><b>Step 1.</b></p> <p>Click on <b>Admin Tools</b> from the Applications menu.</p>	
<p><b>Step 2.</b></p> <p>Under the <b>Cluster Data</b> section, enter in the default <b>admin</b> account credentials and click on <b>Download All</b> button</p> <ul style="list-style-type: none"> <li>This action will download a file called <b>ClusterDataFor_&lt;smartDirector name&gt;(&lt;smartDirector IP&gt;)_XXXXXXXXXXXXX.tgz</b>. It is a compressed file with key pieces of information.</li> </ul>	

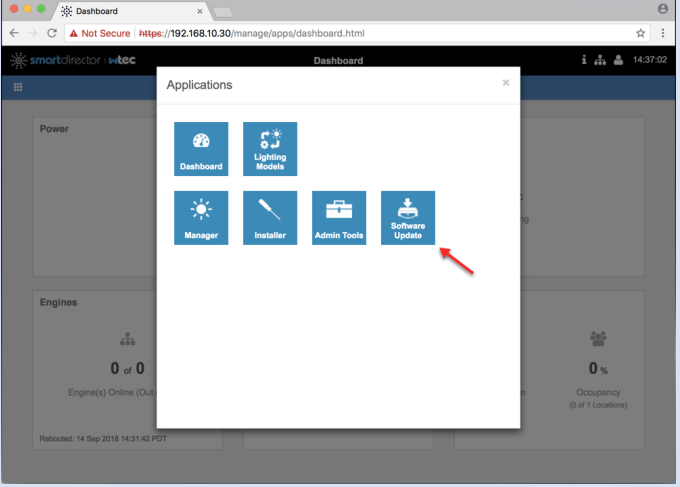
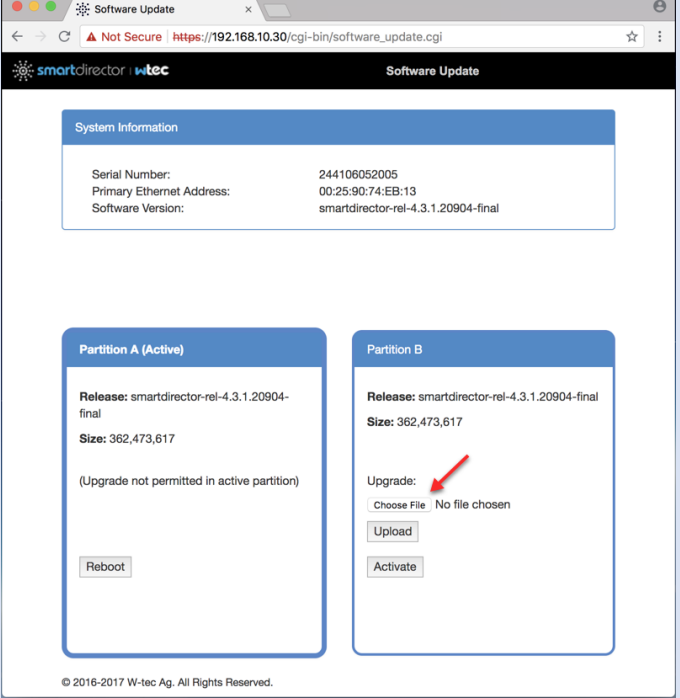
Download the **Site Inventory Data** as well as the Complete Technical Support information from the smartDirector

- The link for **Engines** will download a file called **engines.csv**
- The link for **Fixtures** will download a file called **fixture.csv**



## UPGRADING THE SMARTDIRECTOR:

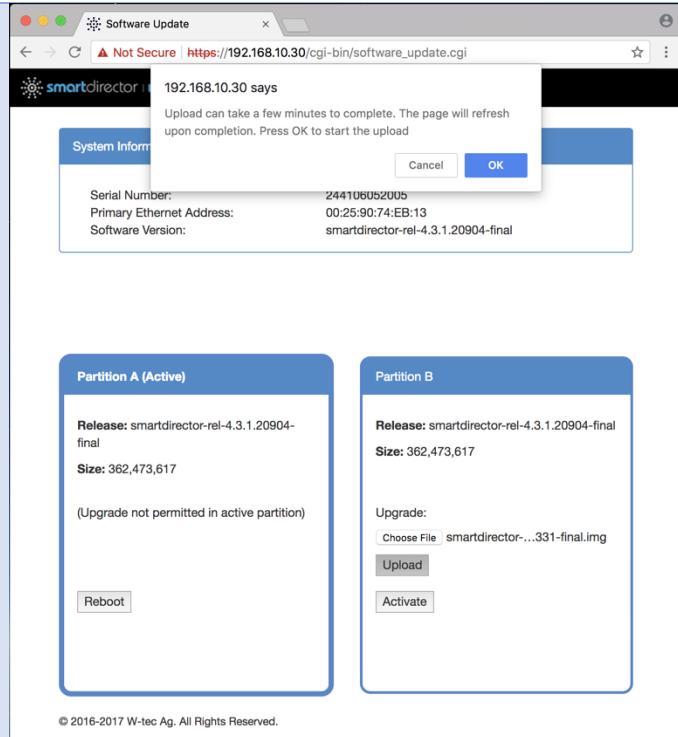
After the important pieces of information have been gathered, a user can now proceed with upgrading the smartDirector to newer 4.3.2 release.

Steps to follow	This is what you will see
<p><b>Step 1.</b></p> <p>Click on <b>Software Update</b> from the Applications menu.</p>	
<p><b>Step 2.</b></p> <p>The <b>Software Update</b> page will appear. In this example, it shows that <b>Partition A</b> (active partition) is running software version 4.3.1.</p> <p><i><b>Note:</b> Software upload and upgrades are only allowed in inactive partitions. In this example, it is <b>Partition B</b>.</i></p> <p>Click on Choose file and select the 4.3.2 software image for the smartDirector that was provided to you by wtec. Next, hit the <b>Upload</b> button.</p>	

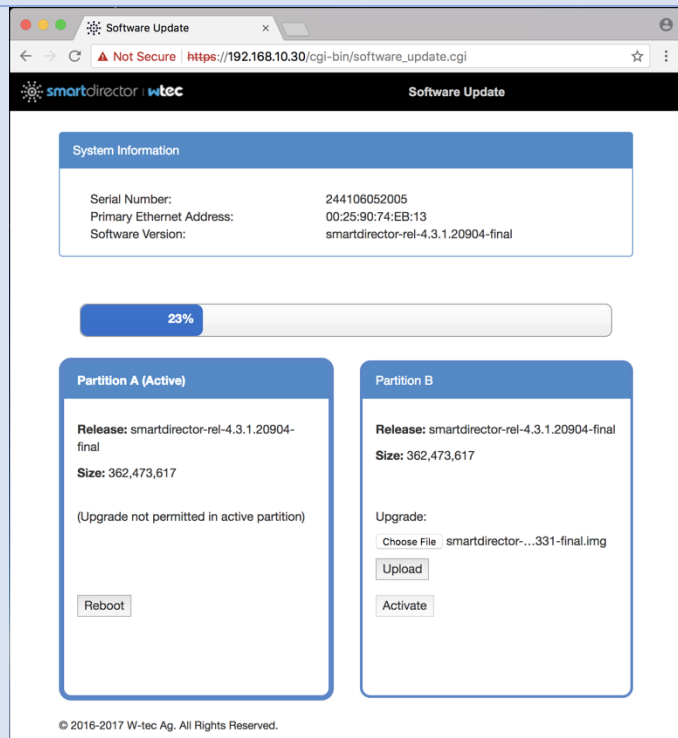
### Step 3.

A prompt will appear which will take an input from the user to proceed with the upload operation.

Hit the **OK** button.



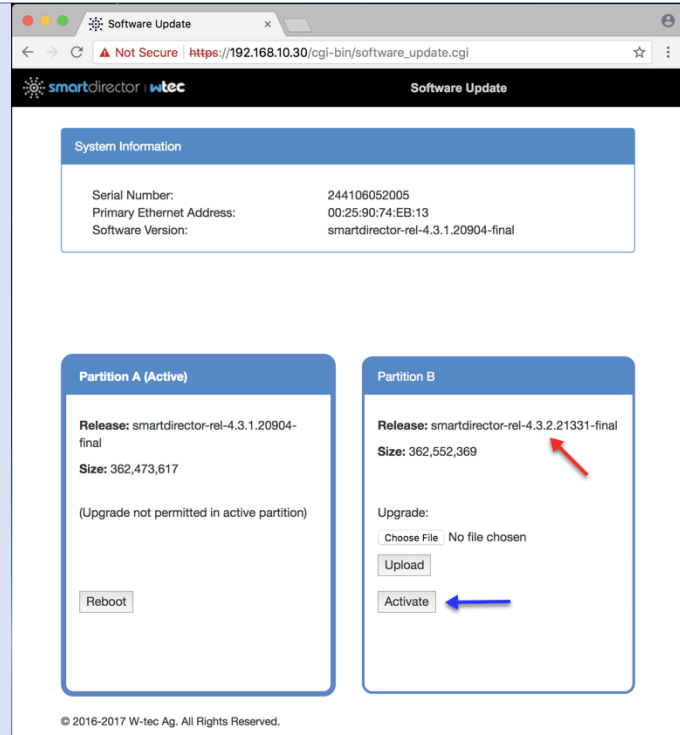
The **Upload** process will begin, and a progress bar will appear.



#### Step 4.

Upon completion of the upload, Partition B will show the 4.3.2 software release for the smartDirector.

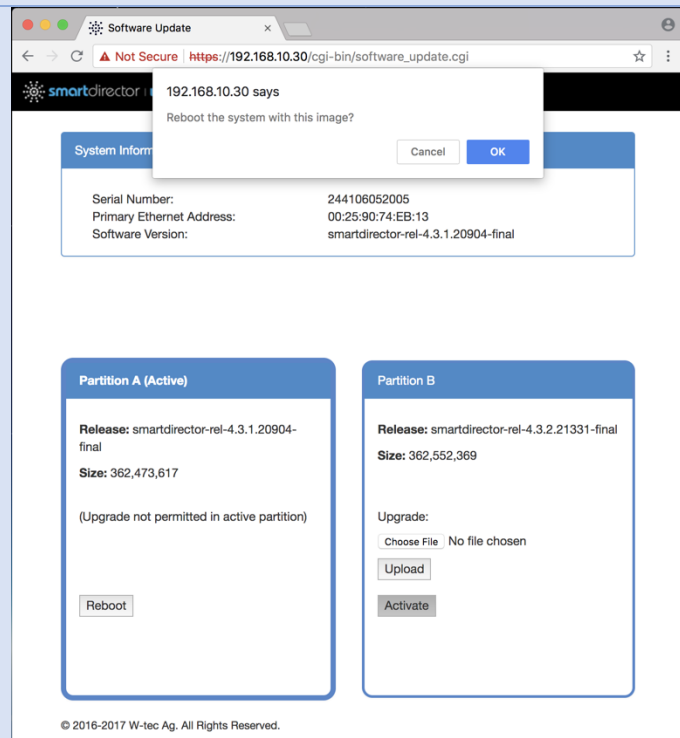
Click on the **Activate** button.



#### Step 5.

A prompt will appear requesting acknowledgement to **Reboot** the system with this image.

Press **OK** to proceed.

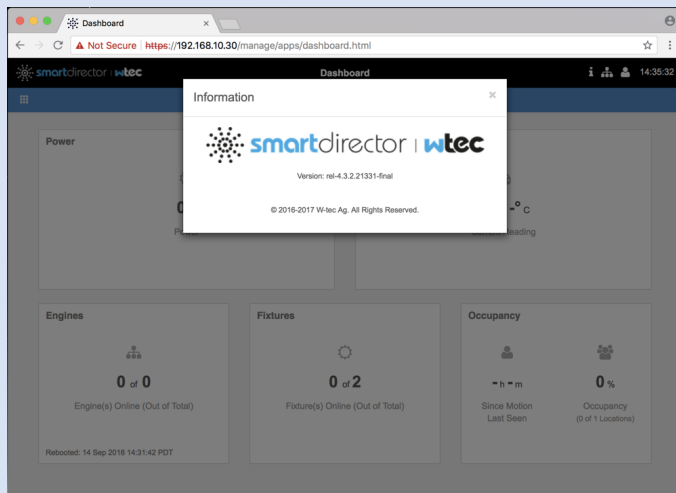
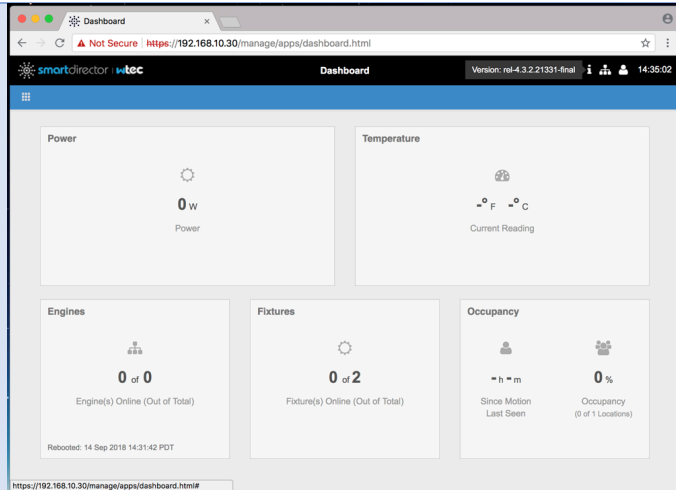


The smartDirector will proceed booting up with the 4.3.2 software image. Give it a couple of minutes while the system reboots. **Note: Do not power cycle the smartDirector.** Once HTTPS access is restored again, the user can try accessing the UI @ <https://<IP Address of smartDirector>>.

**Notice** that the Engines section does not show what you would expect. This is because the engines in the cluster are not on the same software version as the Director!

If the user hovers over the “i” icon on the top right corner or clicks on it, a verification of the newer software 4.3.2 will be revealed.

**At this point the smartDirector upgrade is now complete and the user can proceed with upgrading the entire cluster with the same 4.3.2 software release.**

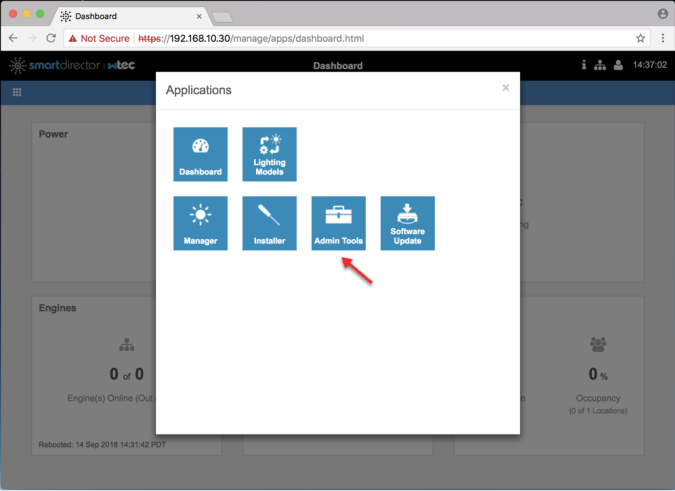
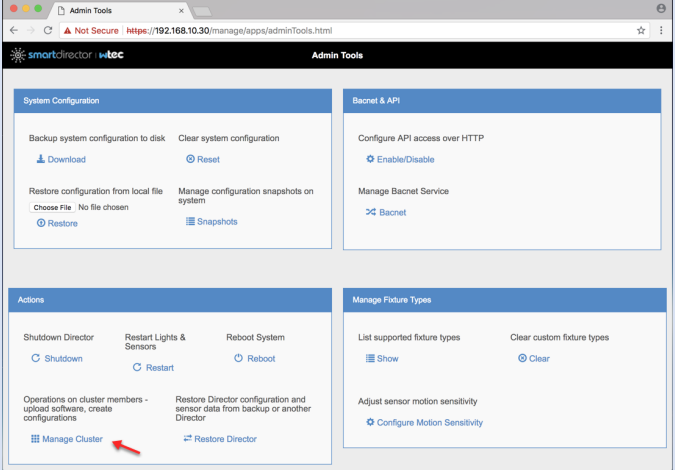




## UPGRADING THE SMARTENGINES:

After the smartDirector is upgraded to the newer 4.3.2 version, it will no longer be able to communicate with the smartEngines since there will be a mismatch of the software release, however, it will be able to see all available smartEngines that are part of the cluster. By using the **Cluster Management** tool, one will be able to upgrade all the cluster members to be on the same version as the smartDirector.

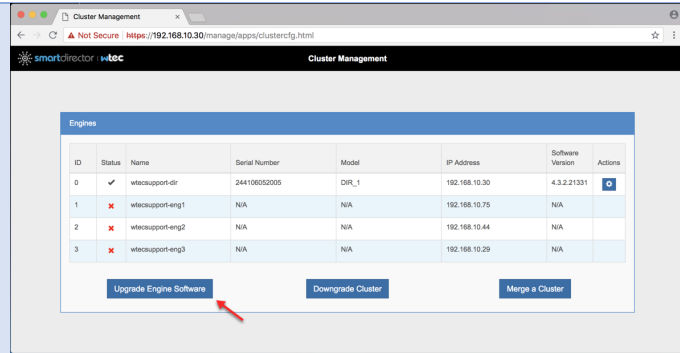
Below are the steps that a user will have to take in order to upgrade the software version on all the smartEngines that are part of the cluster.

Steps to follow	This is what you will see
<p><b>Step 1.</b></p> <p>Access the <b>Applications</b> menu and click on <b>Admin Tools</b>.</p>	
<p><b>Step 2.</b></p> <p>Under the Actions section click on <b>Manage Cluster</b>.</p>	

### Step 3.

This will bring up the **Cluster Management** page. Notice that you can see the Software version and other information for the smartDirector, however the same is not available for the cluster members yet.

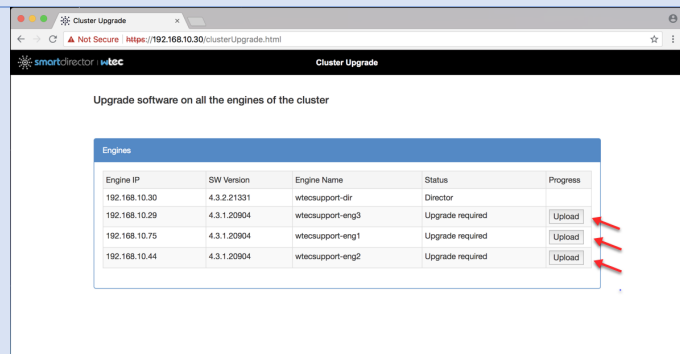
- Click on **Upgrade Engine Software** button.



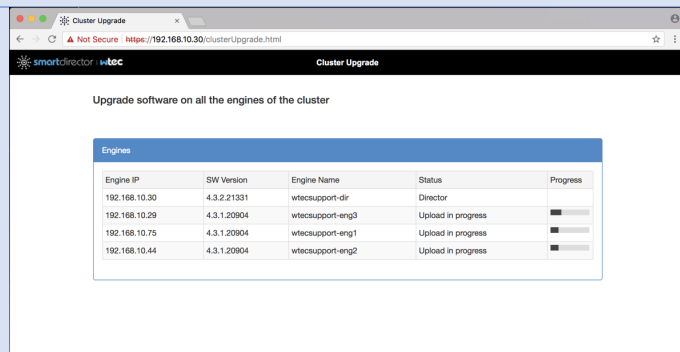
### Step 4.

A list of all the smartEngines will appear with their current Status.

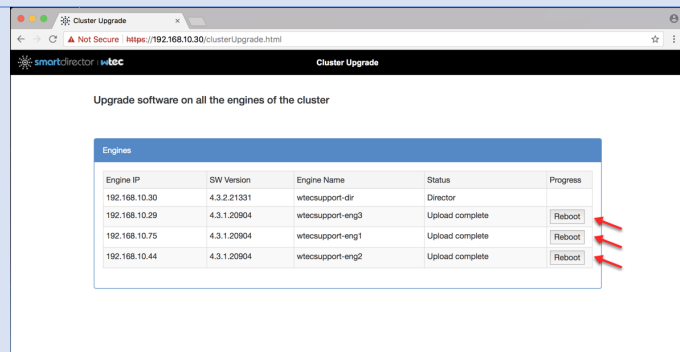
- Click on the **Upload** button for all the members that show a status of Upgrade required



The software will get uploaded to the cluster members and a progress bar will illustrate the same.



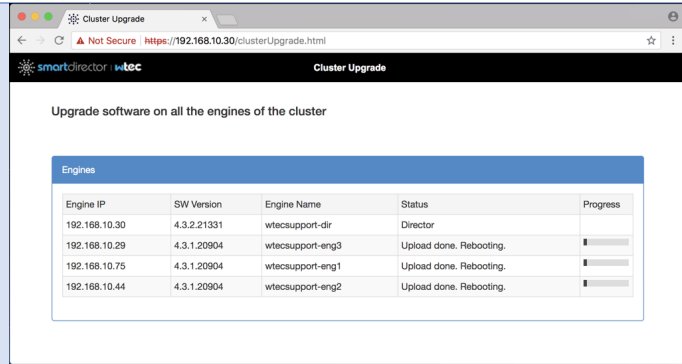
Please wait until you see the status as complete and the **Reboot** buttons appear.



### Step 5.

You can choose to Reboot all the smartEngines at once or you can stagger the operation assuming you do not want the entire site to lose lights temporarily at the same time.

Hit the **Reboot** button(s)

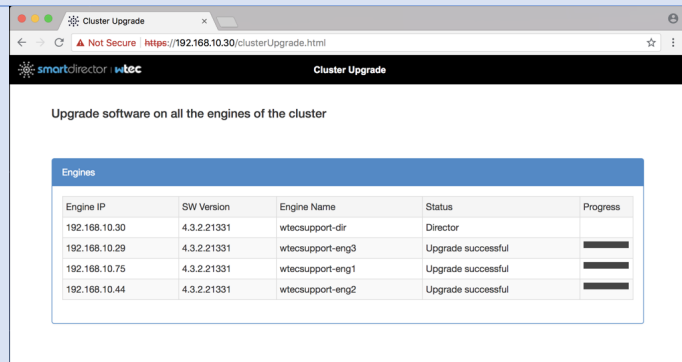


Cluster Upgrade

Upgrade software on all the engines of the cluster

Engine IP	SW Version	Engine Name	Status	Progress
192.168.10.30	4.3.2.21331	wtec-support-dir	Director	
192.168.10.29	4.3.1.20904	wtec-support-eng3	Upload done. Rebooting.	
192.168.10.75	4.3.1.20904	wtec-support-eng1	Upload done. Rebooting.	
192.168.10.44	4.3.1.20904	wtec-support-eng2	Upload done. Rebooting.	

Once the smartEngines have been **rebooted** they will cluster up themselves and the status will show a successful upgrade. Notice the SW Version column having the same version as the smartDirector.



Cluster Upgrade

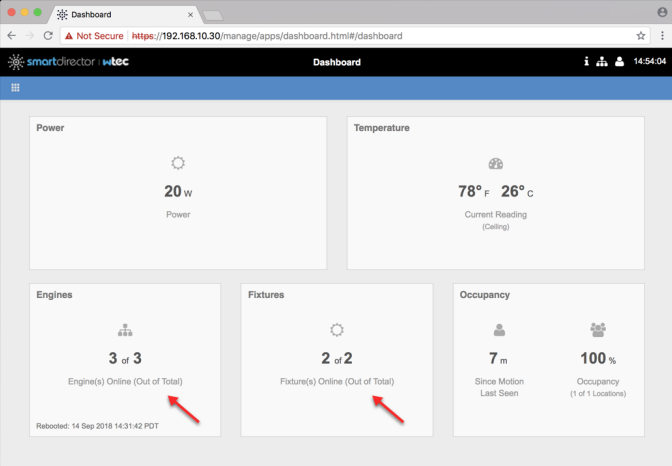
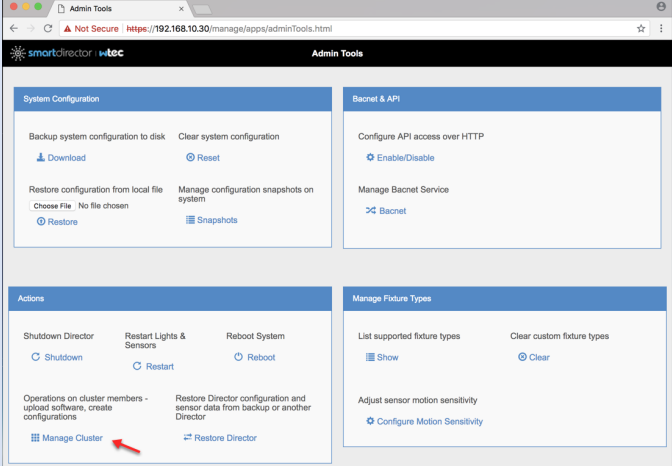
Upgrade software on all the engines of the cluster

Engine IP	SW Version	Engine Name	Status	Progress
192.168.10.30	4.3.2.21331	wtec-support-dir	Director	
192.168.10.29	4.3.2.21331	wtec-support-eng3	Upgrade successful	
192.168.10.75	4.3.2.21331	wtec-support-eng1	Upgrade successful	
192.168.10.44	4.3.2.21331	wtec-support-eng2	Upgrade successful	

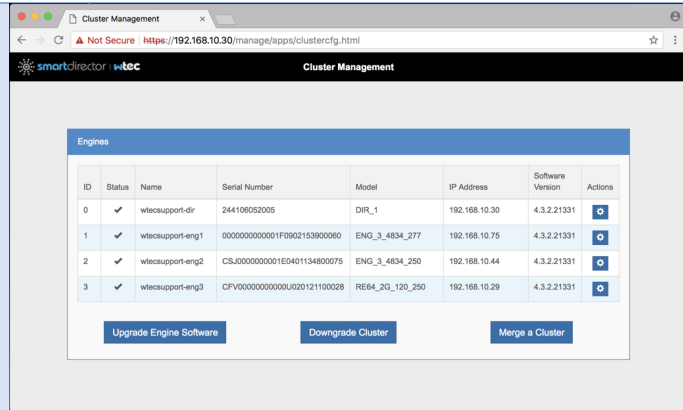
The entire cluster is now running the newer 4.3.2 release of the software and the user can proceed with validating it accordingly.

## VALIDATION OF A SUCCESSFUL UPGRADE:

While the above should be sufficient to indicate a successful upgrade, there are additional steps a user should take to validate the operation.

Steps to follow	This is what you will see
<p><b>Step 1.</b></p> <p>Login and access the <b>Dashboard</b>. Verify that all the engines that were online prior to the upgrade are being accounted for in the count</p>	
<p><b>Step 2.</b></p> <p>Go back to <b>Admin Tools</b> using the Applications menu, and under the Actions section click on <b>Manage Cluster</b></p>	

This will bring up the **Cluster Management** page. Notice that all devices have the same Software Version!

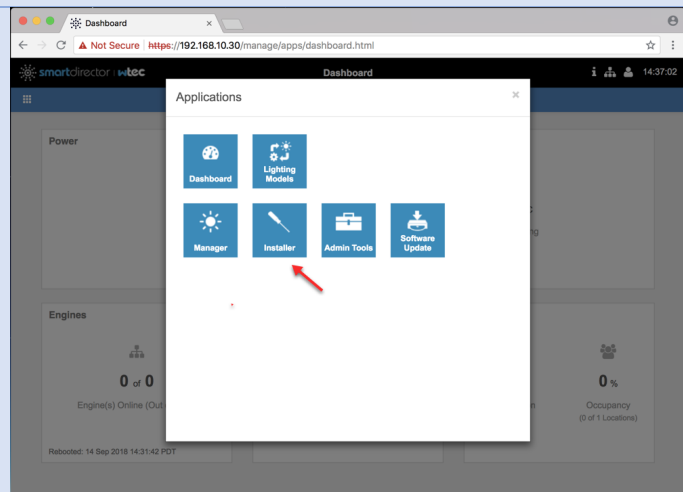


ID	Status	Name	Serial Number	Model	IP Address	Software Version	Actions
0	OK	wtec-support-dir	244106052005	DIR_1	192.168.10.30	4.3.2.21331	[Icon]
1	OK	wtec-support-eng1	000000000001F0002153900060	ENG_3_4834_277	192.168.10.75	4.3.2.21331	[Icon]
2	OK	wtec-support-eng2	CSJ0000000001E0401134800075	ENG_3_4834_250	192.168.10.44	4.3.2.21331	[Icon]
3	OK	wtec-support-eng3	CFV00000000000U020121100028	RE64_20_120_250	192.168.10.29	4.3.2.21331	[Icon]

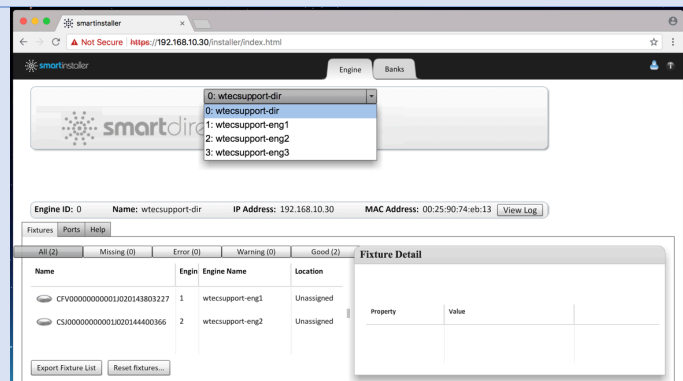
Buttons: Upgrade Engine Software, Downgrade Cluster, Merge a Cluster

### Step 3.

Access the **Applications** menu again and click on **Installer**



The smartInstaller page will appear. Use the drop-down menu and scroll through verifying that all the engines appear as they did when the system was on version 4.3.1.



## POST-UPGRADE DOWNLOAD OF INFORMATION:

It is a **best practice** (and highly recommended) that the user downloads key information from the cluster after a successful software upgrade. This information should be kept safe place in the event it is needed at a later time.

Steps to follow	This is what you will see
<p><b>Step 1.</b></p> <p>Click on <b>Admin Tools</b> from the Applications menu.</p> <p><b>Step 2.</b></p> <p>Under the <b>Cluster Data</b> section, enter in the default <b>admin</b> account credentials and click on <b>Download All</b> button</p> <ul style="list-style-type: none"> <li>This action will download a file called <b>ClusterDataFor_&lt;smartDirector name&gt;(&lt;smartDirector IP&gt;)_XXXXXXXXXXXXX.tgz</b>. It is a compressed file with key pieces of information.</li> </ul> <p>Download the <b>Site Inventory Data</b>.</p> <ul style="list-style-type: none"> <li>The link for <b>Engines</b> will download a file called <b>engines.csv</b></li> <li>The link for <b>Fixtures</b> will download a file called <b>fixture.csv</b></li> </ul>	