FlexConnect AP Image Upgrades

Information About FlexConnect AP Image Upgrades

Normally, when upgrading the image of an AP, you can use the preimage download feature to reduce the amount of time the AP is unavailable to serve clients. However, it also increases the downtime because the AP cannot serve clients during an upgrade. The preimage download feature can be used to reduce this downtime. However, in the case of a branch office set up, the upgrade images are still downloaded to each AP over the WAN link, which has a higher latency.

A more efficient way is to use the FlexConnect AP Image Upgrade feature. When this feature is enabled, one access point of each model in the local network first downloads the upgrade image over the WAN link. It works similarly to the primary-subordinate or client-server model. This access point then becomes the primary for the remaining access point of the similar model. The remaining access points then download the upgrade image from the primary access point using the pre-image download feature over the local network, which reduces the WAN latency.

Related Topics

Predownloading an Image to an Access Point

Access Point Predownload Process

Restrictions on FlexConnect AP Image Upgrades

- The primary and secondary controllers in the network must have the same set of primary and backup images.

- If you configured a FlexConnect group, all access points in that group must be reachable between these access points and firewall must not be deployed.

- A FlexConnect group can have one primary AP per AP model. If a primary AP is not selected manually, the AP that has the least MAC address value is automatically chosen as the primary AP for that model.

- A maximum of 3 subordinate APs of the same model can download the image from their primary AP (a maximum of 3 TFTP connections can serve at a time). The rest of the subordinate APs use the random back-off timer to retry for the primary AP to download the image. The random back-off value is more than 100 seconds. After a subordinate AP downloads the image, the AP informs the controller about the completion of the download. After random back-off, the waiting subordinate AP can occupy the empty TFTP slot at the primary AP.

  If a subordinate AP fails to download the image from its primary AP even after the subordinate retry count that you have configured is exhausted, the subordinate AP reaches out to the controller to fetch the new image.

- This feature works only with CAPWAP APs.

- This feature does not work if a primary AP is connected over CAPWAP6.

- If you upgrade from a release that is prior to Release 7.5 directly to Release 7.6.X or a later release, the predownload process on Cisco AP2600 and AP3600 fails. After the controller is upgraded to Release 7.6.X or a later release, the new image is loaded on Cisco AP2600 and AP3600. After the upgrade to a Release 7.6.X image, the predownload functionality works as expected. The predownload failure is only a one-time failure.

- A Cisco Wave 2 AP working as the primary AP downloads the software image from the controller, even if the software image version is the same.

Configuring FlexConnect AP Upgrades (GUI)

Procedure

Step 1   Choose **Wireless** > **FlexConnect Groups**.

The FlexConnect Groups page appears. This page lists the FlexConnect Groups configured on the controller.

Step 2   Click the **Group Name** link on which you want to configure the image upgrade.

Step 3   Click the **Image Upgrade** tab.

Step 4   Check the **FlexConnect AP Upgrade** check box to enable a FlexConnect AP Upgrade.

Step 5   If you enabled the FlexConnect AP upgrade in the previous step, you must enable the following parameters:

- **Slave Maximum Retry Count**—The number of attempts the subordinate access point must try to connect to the primary access point for downloading the upgrade image. If the image download does not occur for the configured retry attempts, the image is upgraded over the WAN. The default value is 44; the valid range is between 1 and 63.
- **Upgrade Image**—Select the upgrade image. The options are **Primary**, **Backup**, and **Abort**.

Step 6   From the **AP Name** drop-down list, click **Add Master** to add the primary access point.

You can manually assign primary access points in the FlexConnect group by selecting the access points.

Step 7   Click **Apply**.

Step 8   Click **FlexConnect Upgrade** to upgrade.

Configuring FlexConnect AP Upgrades (CLI)

- **config flexconnect group** *group-name* **predownload {enable | disable}**—Enables or disables the FlexConnect AP upgrade.

- **config flexconnect group** *group-name* **predownload master** *ap-name*—Sets the AP as the primary AP for the model.

- **config flexconnect group** *group-name* **predownload slave ap-name** *ap-name*—Sets the AP as a subordinate AP.

- **config flexconnect group** *group-name* **predownload slave retry-count** *max-retry-count* —Sets the retry count for subordinate APs.

- **config flexconnect group** *group-name* **predownload start** {**abort** | **primary** | **backup**}—Initiates the image (primary or backup) download on the access points in the FlexConnect group, or terminates an image download process.

- **show flexconnect group** *group-name*—Displays the summary of the FlexConnect group configuration.

- **show ap image all**—Displays the details of the images on the access point.