



Installing Third-Party Applications from the SMI Server

The Cisco Edge 300 series switch supports the installation of third-party applications from the Smart Install (SMI) server.

The original Cisco Edge 300 series switch package released by Cisco contains a default third-party application package, which includes Open Office and Chrome browser. You can modify the third-party application contents and repackage it, so that you can install partner applications into Cisco Edge 300 from the SMI server.

Third-Party Software Image Requirements

These are the requirements for third-party application images to run on the Cisco Edge 300 series switch:

- The image must be a single package in the form of a *delivery.tar.gz file.
- The image must contain a header file that is placed in a separate header directory. The name of the header file must describe the image.
- The name of the header file must also be the name of the image file. For example, if the header file for the third-party application is 3rd-app-edge300-0.2.5.0-delivery.header, the name of the third-party application image file must be 3rd-app-edge300-0.2.5.0-delivery.tar.gz.

This figure shows the directory structure on the TFTP server after the image package has been unzipped and placed in the /opt/Tftproot/image directory. The bold text parts must match:

```
/opt/Tftproot
|---Image
|   |---OS
|   |   |-- os-edge300-0.2.5.0-delivery.tar.gz
|   |   |-- header/os-edge300-0.2.5.0-delivery.header
|   |   |-- root-edge300-0.2.5.0.tar.gz
|   |   |-- bzImage-21official-beta0.1
|   |---CiscoApp
|   |   |-- cisco-app-edge300-0.2.5.0-delivery.tar.gz
|   |   |-- header/cisco-app-edge300-0.2.5.0-delivery.header
|   |   |-- cisco-app-edge300-0.2.5.0.tar.gz
|   |---Partner
|   |   |-- 3rd-app-edge300-0.2.5.0-delivery.tar.gz
|   |   |-- header/3rd-app-edge300-0.2.5.0-delivery.header
|   |   |-- 3rd-app-edge300-0.2.5.0.tar.gz
```

- The header file must specify these fields, and the IMAGE_TYPE, CPU_TYPE and VIDEO_OUT fields must contain the information that is shown after the equal (=) sign:

```

IMAGE_TYPE=3RD_APP
IMAGE_SIZE=
VERSION=
DDR=
SLC=
MLC=
CPU_CORE=
CPU_TYPE=CE4150
USB=
DOWN_PORTS=
UP_PORTS=
WIRELESS_AP=
BT=
ZIGBEE=
VIDEO_OUT=HDMI

```

This is an example of a header file:

```

IMAGE_TYPE=3RD_APP
IMAGE_VERSION=0.2.5.0
IMAGE_SIZE=1000K
DDR=1G
SLC=1G
MLC=1G
CPU_CORE=1
CPU_TYPE=CE4150
USB=2
DOWN_PORTS=4
UP_PORTS=1
WIRELESS_AP=0
BLUETOOTH=1
ZIGBEE=0
VIDEO_OUT=HDMI
IMAGE_NAME=3rd-app-edge300-0.2.5.0-delivery.tar.gz

```

Installing a Third-Party Application Package

To generate the SMI third-party application package, following these steps.

- Step 1** Use the following contents to create a header file under `${RELEASE_DEST}` for the third-party application, with the file name **3rd.header**:



Note `${RELEASE_DEST}` could be any place that you have write permission on the Linux machine.

```

IMAGE_TYPE=3RD_APP
IMAGE_VERSION=RELEASEVERSION
IMAGE_SIZE=RELEASESIZEK
DDR=1G
SLC=1G
MLC=1G
CPU_CORE=1
CPU_TYPE=CE4150
USB=2
DOWN_PORTS=4
UP_PORTS=1
WIRELESS_AP=0
BLUETOOTH=1

```

```
ZIGBEE=0
VIDEO_OUT=HDMI
IMAGE_NAME=image/Partner/3rd-app-sunbird-RELEASEVERSION.tar.gz
```

Step 2 Use the command **tar -zcvf 3rd-app.tar.gz** to create a 3rd-app.tar.gz file under \${RELEASE_DEST} from Cisco-provided SDK. This file contains the applications to be installed.

You also need two scripts, pre_install.sh and startup.sh, which are optional files with execution permission.

- a. When SMI downloads a third-party application, it executes pre_install.sh first, by which the tasks drafted in the script, such as configuring application environment and deleting old files, can be done before package extraction.
- b. SMI extracts the package to the target path.
- c. SMI executes post_install.sh to wrap the package off. You add commands that can clean up temporary files or create desktop icon in this script.

You need a pre_install.sh script for each third-party application package, and a startup.sh script for each application folder in it. The package structure of a third-party application looks like:

```
- 3rd-app.tar.gz
- pre_install.sh
- {YOUR_APP_FOLDER}
- startup.sh
- .....
-.....
```

Step 3 Use the following script to generate a 3rd-app-sunbird-\${RELEASE_VERSION}.tar.gz file.

```
cd ${RELEASE_DEST}
RELEASE_VERSION=1.5.1 #<-- please change the version as you wish, 1.5.1 Here is an
example.
APP_SIZE=`du -k 3rd-app.tar.gz | awk '{print $1}'`
mv 3rd-app.tar.gz 3rd-app-sunbird-${RELEASE_VERSION}.tar.gz
#Generate 3rd-app md5 checksum
mkdir header
openssl dgst -md5 3rd-app-sunbird-${RELEASE_VERSION}.tar.gz > header/md5.txt
#Generate a header file according to template, version and size info.
APP_RELEASE_HEADER=3rd-app-sunbird-${RELEASE_VERSION}-delivery.header
cp 3rd.header header/3rd-app-sunbird-${RELEASE_VERSION}-delivery.header
cd header
sed -i "s@RELEASEVERSION@${RELEASE_VERSION}@g" ${APP_RELEASE_HEADER}
sed -i "s@RELEASESIZE@${APP_SIZE}@g" ${APP_RELEASE_HEADER}
cd ../
#Generate needed 3rd-app-sunbird-${RELEASE_VERSION}.tar.gz file
tar czvf 3rd-app-sunbird-${RELEASE_VERSION}-delivery.tar.gz
3rd-app-sunbird-${RELEASE_VERSION}.tar.gz header/${APP_RELEASE_HEADER} header/md5.txt
rm -rf header 3rd-app-sunbird-${RELEASE_VERSION}.tar.gz
```

Step 4 Put the 3rd-app-sunbird-\${RELEASE_VERSION}.tar.gz file into the tftproot directory of the SMI server and install it. For detailed steps of the installation, see [Chapter 2, “Configuring the Smart Install Network.”](#) The destination directory is /opt/Tftproot/image/Partner of the TFTP server.

