

# 升级LoRaWAN的IXM Cisco接口接口模块使用控制台

## 目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[背景信息](#)

[配置](#)

[步骤1.准备固件镜像\(和USB驱动\)。](#)

[步骤2.连接IXM通过控制台访问。](#)

[步骤3.复制固件文件到IXM。](#)

[选项 1：使用USB驱动](#)

[选项 2：使用网络，复制文件](#)

[步骤4.执行升级。](#)

[步骤5.在升级以后重新启动IXM。](#)

[验证](#)

[故障排除](#)

## 简介

本文描述步骤升级(IXM)使用控制台端口和仅USB驱动的思科IoT分机模块的软件。

## [先决条件](#)

### [要求](#)

本文档没有任何特定的要求。

### [使用的组件](#)

本文档中的信息基于以下软件和硬件版本：

- 对串行电缆的RJ45
- USB驱动(1GB足够是)或本地网络网络访问
- 柏吾或电源IXM的
- 固件镜像

**注意：**固件镜像可以从CCO下载

：<https://software.cisco.com/download/release.html?mdfid=286311296&softwareid=286311234&release=2.0&releind=AVAILABLE&rellifecycle=&reltype=latest>

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## 背景信息

LoRaWAN的思科IXM或接口模块能运行在两个模式：独立或虚拟。当IXM运行如虚拟，升级可以从IR8x9执行连接到IXM。在独立模式，升级可以通过CLI被执行。有时是不可能的升级固件(例如，当IXM为虚拟方式和没有IR8x9时配置是可用的)或，当在固件的差异关于版本兼容性时是太大的。

## 配置

### 步骤1.准备固件镜像(和USB驱动)。

第一部分是准备要求执行升级的固件镜像。

目标是获得在IXM的这些文件，使用USB驱动或本地网络连接，这可以执行。

当固件镜像从CCO时下载，来作为一个gzipped TAR文件：`ixm_mdm_i_k9-2.0.tar.gz`。

解压缩`.tar.gz`并且复制`recovery.itb`和`release.itb`files对USB驱动或HTTP服务器，可及的由IXM。

### 步骤2.连接IXM通过控制台访问。

一旦执行升级的文件准备，使用控制台端口，您需要连接到IXM。控制台端口在IXM的右边查找和由水认证螺丝覆盖：



连接控制台电缆对RJ45在IXM和到您的PC串行端口并且打开有这些设置的一个终端：`8/N/1/115200`

如果所有进展顺利，您应该看到一提示符与：

```
[root@lorawan ~]#
```

随意地，您的IXM请求能登陆与根帐户。

## 步骤3.复制固件文件到IXM。

### 选项 1：使用USB驱动

当您使用USB驱动时，请连接驱动到在IXM的USB端口(在控制台端口之下)。对USB端口的访问可以是困难，因为入口是相当缩小的，USB外延电缆可帮助您此处。

在您连接USB驱动后，这出现在屏幕上：

```
root@lorawan ~]# usb 4-1.2: new high-speed USB device number 4 using xhci-hcd
usb 4-1.2: New USB device found, idVendor=058f, idProduct=6387
usb 4-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=3
usb 4-1.2: Product: USB Flash Drive
usb 4-1.2: SerialNumber: BE087588
usb-storage 4-1.2:1.0: USB Mass Storage device detected
scsi3 : usb-storage 4-1.2:1.0
scsi 3:0:0:0: Direct-Access          USB Flash Drive  8.07 PQ: 0 ANSI: 2
sd 3:0:0:0: [sdb] 15564800 512-byte logical blocks: (7.96 GB/7.42 GiB)
sd 3:0:0:0: [sdb] Write Protect is off
sd 3:0:0:0: [sdb] No Caching mode page found
sd 3:0:0:0: [sdb] Assuming drive cache: write through
sd 3:0:0:0: [sdb] No Caching mode page found
sd 3:0:0:0: [sdb] Assuming drive cache: write through
sdb: sdb1
sd 3:0:0:0: [sdb] No Caching mode page found
sd 3:0:0:0: [sdb] Assuming drive cache: write through
sd 3:0:0:0: [sdb] Attached SCSI removable disk
```

现在，请安装USB驱动器并且复制recovery.itb和release.itbfiles对在IXM的/tmp：

```
[root@lorawan ~]# mount /dev/sdb1 /mnt/
[root@lorawan ~]# cp /mnt/*.itb /tmp
```

### 选项 2：使用网络，复制文件

当您复制在网络时的文件，请直接地连接网络端口IXM或通过交换机到您的计算机并且配置可及的网络地址。

要配置在IXM的一个网络地址复制文件，可以使用一正常ifconfig命令：

```
[root@lorawan ~]# ifconfig eth0 10.48.43.200
```

在设备可及的后，您能下载从在step1准备的HTTP服务器的文件：

```
[root@lorawan ~]# cd /tmp
[root@lorawan tmp]# wget http://10.48.43.201:1000/recovery.itb
Connecting to 10.48.43.201:1000 (10.48.43.201:1000)
recovery.itb          100% |*****| 23684k  0:00:00 ETA
[root@lorawan tmp]# wget http://10.48.43.201:1000/release.itb
Connecting to 10.48.43.201:1000 (10.48.43.201:1000)
release.itb           100% |*****| 44794k  0:00:00 ETA
[root@lorawan tmp]#
```

## 步骤4.执行升级。

```
broot@lorawan ~]# /opt/script/reimage.sh -n /tmp/release.itb -f /tmp/recovery.it
Calling latest reimage.sh...
Could not find out the version. May be using dev builds. Mode update skipped
Writing factory mode image...
47368+1 records in
47368+1 records out
```

```
24252422 bytes (23.1MB) copied, 1.318204 seconds, 17.5MB/s
Writing normal mode imagel...
89589+1 records in
89589+1 records out
45869754 bytes (43.7MB) copied, 2.453597 seconds, 17.8MB/s
Writing normal mode image2...
89589+1 records in
89589+1 records out
45869754 bytes (43.7MB) copied, 2.458087 seconds, 17.8MB/s
Updating u-boot boot parameters...
Stop lxc container...
Stopping default lxc container...
umount: /mnt/container/rootfs/run: mountpoint not found
umount: /mnt/container/rootfs/var/run: mountpoint not found
lxcbr0: port 1(vethPFLXN1) entered disabled state
umount: /mnt/container/rootfs: mountpoint not found
device vethPFLXN1 left promiscuous mode
lxcbr0: port 1(vethPFLXN1) entered disabled state
Stop logging service...
Stopping syslog-ng daemon: OK
Stop logging signal received
umount: /var/log/: target is busy
(In some cases useful info about processes that
 use the device is found by lsof(8) or fuser(1).)
Try to umount log directory again...
2244
Stop mdev...
umount: /data/uflash: mountpoint not found
Repartition internal SD...
```

```
Welcome to fdisk (util-linux 2.26.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.
```

```
Command (m for help): Created a new DOS disklabel with disk identifier 0x676d0d95.
```

```
Command (m for help): Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p): Partition number (1-4, default 1): First sector (2048-7618559, default
2048): Last sector, +sectors or +size{K,M,G,T,P} (786432-7618559, default 7618559):
Created a new partition 1 of type 'Linux' and of size 640 MiB.
```

```
Command (m for help): Partition type
   p   primary (1 primary, 0 extended, 3 free)
   e   extended (container for logical partitions)
Select (default p): Partition number (2-4, default 2): First sector (2048-7618559, default
2048): Last sector, +sectors or +size{K,M,G,T,P} (2097152-7618559, default 7618559):
Created a new partition 2 of type 'Linux' and of size 2.6 GiB.
```

```
Command (m for help): The partition table has been altered.
Calling ioctl() to re-read partition table.
Re-reading the partition table failed.: Device or resource busy
```

```
The kernel still uses the old table. The new table will be used at the next reboot or after you
run partprobe(8) or kpartx(8).
```

```
Recreate filesystem...
Creating filesystem for system data...
/tmp/_reimage.sh: line 322: cryptkey: command not found
/tmp/_reimage.sh: line 323: cryptsetup: command not found
/tmp/_reimage.sh: line 324: cryptsetup: command not found
/tmp/_reimage.sh: line 325: cryptsetup: command not found
```

```
mke2fs 1.42.12 (29-Aug-2014)
The file /dev/mapper/cryptroot does not exist and no size was specified.
Creating filesystem for user data...
mke2fs 1.42.12 (29-Aug-2014)
/dev/sda2 contains a ext3 file system labelled 'APP'
last mounted on Thu Jan  1 00:00:06 1970
/dev/sda2 is mounted; will not make a filesystem here!
Restart mdev...
Starting mdev...
Restart logging service...
Mounting log directory...
Starting syslog-ng daemon: OK
[root@lorawan ~]#
```

## 步骤5.在升级以后重新启动IXM。

请重新启动IXM完成升级：

```
[root@lorawan ~]# reboot
[root@lorawan ~]# watchdog watchdog0: watchdog did not stop!
Stopping cron jobs...
Stopping default lxc container...
lab is not running
umount: /tmp/lxc: not mounted
Stopping sshd: OK
Stopping ntpd: OK
Stop lora HAL...
Stopping Network Interface Plugging Daemon: eth0.
Stopping network...ifdown: interface eth0 not configured
Saving random seed... done.
Clear kernel parameters...
Stopping system config...
Stop checking PID...
Save clock...
killall: watchdog: no process killed
Stopping syslog-ng daemon: OK
Stop logging signal received
No handlers could be found for logger "mdm"
The system is going down NOW!
```

## [验证](#)

通过此您能验证升级是否是成功的：

早版本的示例：

```
[root@lorawan ~]# cat /etc/cisco_version
VERSION=1.0.06
BRANCH=warbler_1_0_throttle
VIEW=nburra-warbler_1_0_throttle.warbler_1_0_throttle_nightly_12052016
FREEZE TIME=05-Dec-2016.21:40:46UTC-08:00
```

在升级以后的示例：

```
[root@lorawan ~]# cat /etc/cisco_version
VERSION=2.0
BRANCH=corsica_2_0_throttle
VIEW=nburra-corsica_2_0_throttle.corsica_2_0_throttle_NIGHTLY_2.0_05272017_203603
FREEZE TIME=26-May-2017.15:50:34UTC-07:00
```

## [故障排除](#)

目前没有针对此配置故障排除信息。