

# IRF 構成でのアップデート（スプリット）

## 1. IPE ファイルの入手

下記 URL をアクセスし、SN を記入し IPE ファイルをダウンロード。

URL: [https://www.h3c.com/en/Support/Resource\\_Center/Software\\_Download/](https://www.h3c.com/en/Support/Resource_Center/Software_Download/)

The screenshot shows the H3C Software Download page. At the top, there is a navigation bar with the H3C logo and links for Products and Solutions, Industry Solutions, Services, Support, Training & Certification, Partners, and About Us. The main heading is "Software Download". Below this, there are two tabs: "Global" (selected) and "Hong Kong, China". A red arrow points to a search input field labeled "Please enter the serial number of the host or chassis" with the text "SN を記入" inside. To the right of the input field is a "Software Search" button. Below the search field, there is a "Software version search guide" section with four numbered instructions. A "Contact Sales" button is located on the right side of the page.

The screenshot shows the H3C Software Download page with search results. The search input field now contains the serial number "210235A1" and the "Software Search" button is highlighted. Below the search field, the "Software version search guide" is repeated. Below the guide, there is a table with search results. The table has three columns: "Title", "Date", and "Downloads". The first row shows the title "H3C SecPath F1080\_F1070\_F1060\_F1050\_F1030\_F1020 Series" with a "Recommend" tag, a date of "2022/11/13 14:28:00", and a "Downloads" button. At the bottom of the page, there is a navigation bar with icons and links for "Online Exhibition Center", "Support", "Training & Certification", and "Technical Documents". A "Contact Sales" button is also present. Below this, there are links for "About Us", "Contact Us", "Support", "How to Buy", "Friendship link", and "Follow H3C".

Title	Date	Downloads
H3C SecPath F1080_F1070_F1060_F1050_F1030_F1020 Series <b>Recommend</b>	2022/11/13 14:28:00	<a href="#">Downloads</a>

## 2. 空き容量の確認

下記コマンドにて空き容量を確認する、空き容量が IPE ファイルより大きい事を確認。

例:

```
<H3C>dir slot2#flash:/
```

Directory of slot2#flash:

```
 0 -rw-      220684 Jan 01 2021 00:00:01  defaultfile.zip
 1 drw-          - Jan 01 2021 00:13:49  diagfile
 2 -rw-      1968 Jan 01 2021 02:07:26  ifindex.dat
 3 drw-          - Jan 01 2021 02:48:45  kpi
 4 drw-          - Jan 01 2013 00:26:00  license
 5 drw-          - Jan 01 2021 00:00:17  logfile
 6 drw-          - Jan 01 2021 00:43:22  pki
 7 -rw-     5774336 Jan 01 2021 00:26:57  s5560x_ei-cmw710-boot-r6552.bin
 8 -rw-     5954560 Jan 01 2021 00:46:44  s5560x_ei-cmw710-boot-r6652p02.bin
 9 -rw-     11961344 Jan 01 2021 00:53:49  s5560x_ei-cmw710-escan-r6652p02.bin
10 -rw-     108448768 Jan 01 2021 00:30:10  s5560x_ei-cmw710-system-r6552.bin
11 -rw-     121155584 Jan 01 2021 00:52:33  s5560x_ei-cmw710-system-r6652p02.bin
12 drw-          - Jan 01 2021 00:13:50  seclog
13 -rw-      6296 Jan 01 2021 02:07:33  startup.cfg
14 -rw-     170571 Jan 01 2021 02:07:43  startup.mdb
15 drw-          - Jan 01 2021 00:42:23  versionInfo
```

514048 KB total (263568 KB free)

```
<H3C>dir slot1#flash:/
```

Directory of flash:

```
 0 -rw-      220684 Jan 01 2021 02:46:41  defaultfile.zip
 1 drw-          - Jan 01 2021 00:39:59  diagfile
 2 -rw-      1968 Jan 01 2021 02:07:25  ifindex.dat
 3 drw-          - Mar 04 2021 00:00:44  kpi
 4 drw-          - Jan 01 2013 02:33:59  license
 5 drw-          - Jan 01 2021 02:46:57  logfile
 6 drw-          - Jan 01 2021 02:50:57  pki
 7 -rw-     5774336 Jan 01 2021 00:45:52  s5560x_ei-cmw710-boot-r6552.bin
 8 -rw-     5954560 Jan 01 2021 02:38:33  s5560x_ei-cmw710-boot-r6652p02.bin
 9 -rw-     11952128 Jan 01 2021 00:48:56  s5560x_ei-cmw710-escan-r6552.bin
10 -rw-     11961344 Jan 01 2021 02:45:38  s5560x_ei-cmw710-escan-r6652p02.bin
11 -rw-     1014784 Jan 01 2021 00:48:38  s5560x_ei-cmw710-freeradius-r6552.bin
12 -rw-     121155584 Jan 01 2021 02:44:23  s5560x_ei-cmw710-system-r6652p02.bin
13 drw-          - Jan 01 2021 00:39:59  seclog
14 -rw-      6296 Jan 01 2021 02:07:33  startup.cfg
15 -rw-     170571 Jan 01 2021 02:07:33  startup.mdb
16 drw-          - Jan 01 2021 02:49:58  versionInfo
```

514048 KB total (343624 KB free)

### 3. IRF 構成状態の確認

下記コマンドで「Stable」状態になっている事を確認:

```
<H3C>display system stable state
```

```
System state      : Stable
```

```
Redundancy state : Stable
```

Slot	CPU	Role	State
1	0	Active	Stable
2	0	Standby	Stable

### 4. IPE ファイルを SW までアップロード (GUI 又は CLI):

例 (FTP クライアントとして GET する場合):

```
<H3C>ftp 192.168.209.55
```

```
Press CTRL+C to abort.
```

```
Connected to 192.168.209.55 (192.168.209.55).
```

```
220 Welcome to use Ftp-Serv
```

```
User (192.168.209.55:(none)): user
```

```
331 Username okay, need password
```

```
Password:
```

```
230 Login success, you can upload files now
```

```
Remote system type is UNIX.
```

```
Using binary mode to transfer files.
```

```
ftp> bin
```

```
200 Switching to Binary mode.
```

```
ftp> dir
```

```
227 Entering Passive Mode (192,168,209,55,43,18)
```

```
150 Here comes the directory listing.
```

```
drwxr-xr-x  22 sai staff      768 Jan 15 13:32 S5560X_EI-CMW710-R6628P47
-rw-r--r--  1 sai staff      6148 Jan 15 13:32 .DS_Store
-rw-r--r--  1 sai staff    25285 Jan 04 15:33 result_1.3.6.1.4.1.25506.2.75.2.2.23.1.23.txt
-rw-r--r--  1 sai staff    25192 Jan 04 15:34 result_1.3.6.1.4.1.25506.2.75.2.2.23.1.24.txt
-rwxr-xr-x  1 sai staff  128553984 Dec 27 23:28 S5560X_EI-CMW710-R6628P47.ipe
-rwx-----  1 sai staff   839888468 Jan 02 18:46 S5560X_EI-CMW710-R6628P47.zip
```

```
226 Directory send OK.
```

```
ftp> get S5560X_EI-CMW710-R6628P47.ipe
```

```
227 Entering Passive Mode (192,168,209,55,43,18)
```

```
150 Opening BINARY mode data connection for S5560X_EI-CMW710-R6628P47.ipe
(128553984 bytes).
```

```
.....
.....
```

```
226 Transfer complete.
```

```
128553984 bytes received in 299.289 seconds (419.46 Kbytes/s)
```

```
ftp> quit
```

5. ファイルを確認:

```
<H3C>md5 flash/ S5560X_EI-CMW710-R6628P47.ipe
```

```
MD5 digest:
```

```
2afc347643a5b8087c4ab90aca9f1103
```

6. Slot2 までコピーする:

```
<H3C>copy flash:/S5560X_EI-CMW710-R6628P47.ipe slot2#flash:/
```

```
Copy flash:/S5560X_EI-CMW710-R6628P47.ipe to slot2#flash:/S5560X_EI-CMW710-  
R6628P47.ipe? [Y/N]:y
```

```
Copying file flash:/S5560X_EI-CMW710-R6628P47.ipe to slot2#flash:/S5560X_EI-CMW710-  
R6628P47.ipe.....
```

```
.....  
Done.
```

7. MAD 設定が投入されている場合、一旦 MAD 設定を削除する。

```
[H3C]interface Bridge-Aggregation 100
```

```
[H3C-Bridge-Aggregation100]undo mad enable
```

8. 次回起動時使用するイメージを全 Slot に指定。

```
<H3C>boot-loader file flash:/S5560X_EI-CMW710-R6628P47.ipe all main
```

```
Verifying the file flash:/S5560X_EI-CMW710-R6628P47.ipe on slot 1.....Done.
```

```
H3C S5560X-34S-EI images in IPE:
```

```
  s5560x_ei-cmw710-boot-r6628p47.bin
```

```
  s5560x_ei-cmw710-system-r6628p47.bin
```

```
  s5560x_ei-cmw710-freeradius-r6628p47.bin
```

```
  s5560x_ei-cmw710-escan-r6628p47.bin
```

```
This command will set the main startup software images. Continue? [Y/N]:y
```

```
Add images to slot 1.
```

```
Decompressing file s5560x_ei-cmw710-boot-r6628p47.bin to flash:/s5560x_ei-cmw710-  
boot-r6628p47.bin.....Done.
```

```
Decompressing file s5560x_ei-cmw710-system-r6628p47.bin to flash:/s5560x_ei-cmw710-  
system-
```

```
r6628p47.bin.....  
.....Done.
```

```
Decompressing file s5560x_ei-cmw710-freeradius-r6628p47.bin to flash:/s5560x_ei-  
cmw710-freeradius-r6628p47.bin...Done.
```

```
Decompressing file s5560x_ei-cmw710-escan-r6628p47.bin to flash:/s5560x_ei-cmw710-  
escan-r6628p47.bin.....Done.
```

```
Verifying the file flash:/s5560x_ei-cmw710-boot-r6628p47.bin on slot 1...Done.
```

```
Verifying the file flash:/s5560x_ei-cmw710-system-r6628p47.bin on slot 1.....Done.
```

```
Verifying the file flash:/s5560x_ei-cmw710-freeradius-r6628p47.bin on slot 1...Done.
```

```
Verifying the file flash:/s5560x_ei-cmw710-escan-r6628p47.bin on slot 1...Done.
```

```
The images that have passed all examinations will be used as the main startup software  
images at the next reboot on slot 1.
```

Loading.....  
Verifying the file flash:/s5560x\_ei-cmw710-boot-r6628p47.bin on slot 2...Done.  
Verifying the file flash:/s5560x\_ei-cmw710-system-r6628p47.bin on slot 2.....Done.  
Verifying the file flash:/s5560x\_ei-cmw710-freeradius-r6628p47.bin on slot 2...Done.  
Verifying the file flash:/s5560x\_ei-cmw710-escan-r6628p47.bin on slot 2....Done.  
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 2.  
Decompression completed.  
Do you want to delete flash:/S5560X\_EI-CMW710-R6628P47.ipe now? [Y/N]:n

9. 次回起動時使用するイメージを確認:

```
<H3C>display boot-loader
Software images on slot 1:
Current software images:
  flash:/s5560x_ei-cmw710-boot-r6652p02.bin
  flash:/s5560x_ei-cmw710-system-r6652p02.bin
  flash:/s5560x_ei-cmw710-freeradius-r6652p02.bin
  flash:/s5560x_ei-cmw710-escan-r6652p02.bin
Main startup software images:
  flash:/s5560x_ei-cmw710-boot-r6628p47.bin
  flash:/s5560x_ei-cmw710-system-r6628p47.bin
  flash:/s5560x_ei-cmw710-freeradius-r6628p47.bin
  flash:/s5560x_ei-cmw710-escan-r6628p47.bin
Backup startup software images:
  None
Software images on slot 2:
Current software images:
  flash:/s5560x_ei-cmw710-boot-r6652p02.bin
  flash:/s5560x_ei-cmw710-system-r6652p02.bin
  flash:/s5560x_ei-cmw710-freeradius-r6652p02.bin
  flash:/s5560x_ei-cmw710-escan-r6652p02.bin
Main startup software images:
  flash:/s5560x_ei-cmw710-boot-r6628p47.bin
  flash:/s5560x_ei-cmw710-system-r6628p47.bin
  flash:/s5560x_ei-cmw710-freeradius-r6628p47.bin
  flash:/s5560x_ei-cmw710-escan-r6628p47.bin
Backup startup software images:
  None
```

10. 下記コマンドで Master 機を確認:

```
<H3C>display irf
MemberID    Role    Priority  CPU-Mac          Description
**1         Master  1         f010-90db-7402  ---
           2         Standby 1         f010-90db-7403  ---
```

-----  
\* indicates the device is the master.  
+ indicates the device through which the user logs in.

The bridge MAC of the IRF is: 441a-fac6-a1c6

Auto upgrade : yes  
Mac persistent : 6 min  
Domain ID : 0

11. Master 側のインタフェースを**全部 shut down (業務用ポート)**してから、設定内容を保存。

```
[H3C]interface range GigabitEthernet 1/0/1 to GigabitEthernet 1/0/24
```

```
[H3C-if-range]shutdown
```

```
[H3C-if-range]save force
```

```
Validating file. Please wait...
```

```
Saved the current configuration to mainboard device successfully.
```

```
Slot 2:
```

```
Save next configuration file successfully.
```

12. slot 1 の Master 機を再起動して、**すぐ** IRF ポートを抜いて下さい。

```
<H3C>reboot slot 1
```

```
Start to check configuration with next startup configuration file, please wait.....DONE!
```

```
This command will perform a switchover. Continue? [Y/N]:y
```

```
Now rebooting, please wait....
```

```
%Jan 3 04:00:55:522 2011 H3C DEV/5/BOARD_REBOOT: Board is rebooting on Slot 1.
```

13. slot 1 の Master 機を再起動完了後、バージョンを確認。

```
<H3C>display version
```

```
H3C Comware Software, Version 7.1.070, Release 6628P47
```

```
Copyright (c) 2004-2023 New H3C Technologies Co., Ltd. All rights reserved.
```

```
H3C S5560X-34S-EI uptime is 0 weeks, 0 days, 0 hours, 3 minutes
```

```
Last reboot reason : User reboot
```

```
Boot image: flash:/s5560x_ei-cmw710-boot-r6628p47.bin
```

```
Boot image version: 7.1.070, Release 6628P47
```

```
Compiled Dec 01 2023 15:06:00
```

```
System image: flash:/s5560x_ei-cmw710-system-r6628p47.bin
```

```
System image version: 7.1.070, Release 6628P47
```

```
Compiled Dec 01 2023 15:06:00
```

```
Feature image(s) list:
```

```
flash:/s5560x_ei-cmw710-freeradius-r6628p47.bin, version: 7.1.070, Release 6628P47
```

```
Compiled Dec 01 2023 15:06:00
```

```
flash:/s5560x_ei-cmw710-escan-r6628p47.bin, version: 7.1.070, Release 6628P47
```

```
Compiled Dec 01 2023 15:06:00
```

Slot 1:  
Uptime is 0 weeks,0 days,0 hours,3 minutes  
S5560X-34S-EI with 2 Processors  
BOARD TYPE: S5560X-34S-EI  
DRAM: 2048M bytes  
FLASH: 512M bytes  
PCB 1 Version: VER.A  
Bootrom Version: 121  
CPLD 1 Version: 001  
Release Version: H3C S5560X-34S-EI-6628P47  
Patch Version : None  
Reboot Cause : UserReboot  
[SubSlot 0] 24GE+4COMBO+4SFP Plus + 2QSFP Plus

14. Slot 1 が「Stable」状態になってから、Slot 2 のインタフェースを**全部 shut down（業務用ポート）**。

Slot 1:  
<H3C>display system stable state  
System state : Stable  
Redundancy state : No redundancy  
Slot CPU Role State  
1 0 Active Stable

Slot 2:  
[H3C]interface range GigabitEthernet 2/0/1 to GigabitEthernet 2/0/24  
[H3C-if-range]shutdown

15. Slot 2 のインタフェースを**全部 shut down（業務用ポート）**してから、Slot 1 のインタフェースを undo shutdown。

[H3C]interface range GigabitEthernet 1/0/1 to GigabitEthernet 1/0/24  
[H3C-if-range]undo shutdown

16. slot 2 を再起動してアップグレードする（Config は保存しない!）。

<H3C>reboot slot 2  
Start to check configuration with next startup configuration file, please wait.....DONE!  
**Current configuration may be lost after the reboot, save current configuration? [Y/N]:n**  
This command will reboot the device. Continue? [Y/N]:y

Now rebooting, please wait.....

\*再起動が完了する前に IRF ポートを接続する。

17. バージョン確認:

<H3C>display device  
Slot Type State Subslot Soft Ver Patch Ver

1	S5560X-34S-EI	Master	0	S5560X-6628P47	None
2	S5560X-34S-EI	Standby	0	S5560X-6628P47	None

18. MAD 設定を投入。

```
[H3C]interface Bridge-Aggregation 100
```

```
[H3C-Bridge-Aggregation100]mad enable
```