

DP720 Batch Upgrade Instructions

- Hardware preparation

1. 1 x Linux PC
2. Several USB Hubs
3. Several USB-A to Micro-USB cables

- Environment setup

1. Connect USB Hub to PC. Then use the USB-A to Mico-USB cable to connect the handset and USB Hub.

2. On the PC, check the USB port being used, enter command:

```
ll /dev/ttyUSB*
```

In below figure, port 0 – 6 are used.

[illegible]

3. Create a new folder under “var” directory. Put the script in this new folder. For example,

```
mkdir uart_upgrade
```

You can define the file directory and file name yourself.

4. Put the script "fact_uart_upgrade" under the newly created folder "uart_upgrade"

5. Set the permission for the script. Enter:

```
chmod 777 fact_uart_upgrade
```

6. Put the firmware files “dp720fwdev.xbin” and “dp720resdev.xbin” under folder “uart_upgrade”.

See figure below:

```
root@gateway-ThinkCentre-XXXX: /home/gateway/uart_upgrade_new
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
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root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# ll /dev/ttyUSB*
crw-rw---- 1 root dialout 188, 0 2月 2 20:19 /dev/ttyUSB0
crw-rw---- 1 root dialout 188, 1 2月 2 20:19 /dev/ttyUSB1
crw-rw---- 1 root dialout 188, 2 2月 2 20:19 /dev/ttyUSB2
crw-rw---- 1 root dialout 188, 3 2月 2 20:20 /dev/ttyUSB3
crw-rw---- 1 root dialout 188, 4 2月 2 20:19 /dev/ttyUSB4
crw-rw---- 1 root dialout 188, 5 2月 2 20:19 /dev/ttyUSB5
crw-rw---- 1 root dialout 188, 6 2月 2 20:19 /dev/ttyUSB6
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# ll
total 1192
drwxr-xr-x 2 root root 4096 2月 2 20:34 ./
drwxr-xr-x 22 gateway gateway 4096 2月 2 17:05 ../
-rw-r--r-- 1 root root 628908 1月 29 09:00 dp720fwdev.xbin
-rw-r--r-- 1 root root 534350 1月 29 09:00 dp720resdev.xbin
-rwxrwxrwx 1 root root 12076 2月 2 14:48 fact_set_region*
-rwxrwxrwx 1 root root 23441 2月 2 14:48 fact_uart_upgrade*
-rw-r--r-- 1 root root 4839 2月 2 20:20 uart_upgrade.log
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# ls
dp720fwdev.xbin dp720resdev.xbin fact_set_region fact_uart_upgrade uart_upgrade.log
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
```

- Start batch upgrade

1. Under directory "uart_upgrade", execute the following commands:

./fact_uart_upgrade dp720fwdev.xbin 1.0.0.6 dp720resdev.xbin 1.0.0.1

In our example, the handset version is 1.0.0.6, RES version is 1.0.0.1.

[PortNumber R] means this port can start upgrading. See figure below.

```
root@gateway-ThinkCentre-XXXX: /home/gateway/uart_upgrade_new
drwxr-xr-x 22 gateway gateway 4096 2月 2 17:05 ../
-rw-r--r-- 1 root root 628908 1月 29 09:00 dp720fwdev.xbin
-rw-r--r-- 1 root root 534350 1月 29 09:00 dp720resdev.xbin
-rwxrwxrwx 1 root root 12076 2月 2 14:48 fact_set_region*
-rwxrwxrwx 1 root root 23441 2月 2 14:48 fact_uart_upgrade*
-rw-r--r-- 1 root root 4839 2月 2 20:20 uart_upgrade.log
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# ls
dp720fwdev.xbin dp720resdev.xbin fact_set_region fact_uart_upgrade uart_upgrade.log
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# ./fact_uart_upgrade dp720fw
dev.xbin 1.0.0.6 dp720resdev.xbin 1.0.0.1

Factory uart upgrade tool(Build time: Dec 21 2015 02:39:20)

Please power on next device on serial port 0

Please power on next device on serial port 1

Please power on next device on serial port 2

Please power on next device on serial port 3

Please power on next device on serial port 4

Please power on next device on serial port 5

Please power on next device on serial port 6

OR 1R 2R 3R 4R 5R 6R
```

2. Power on the port for the handset that needs to be upgraded, the upgrading process will start automatically. When the handset is in upgrading process, the LCD will be off. After upgrading is finished, the handset will boot up normally. The letter code next to the port number has the following definitions:

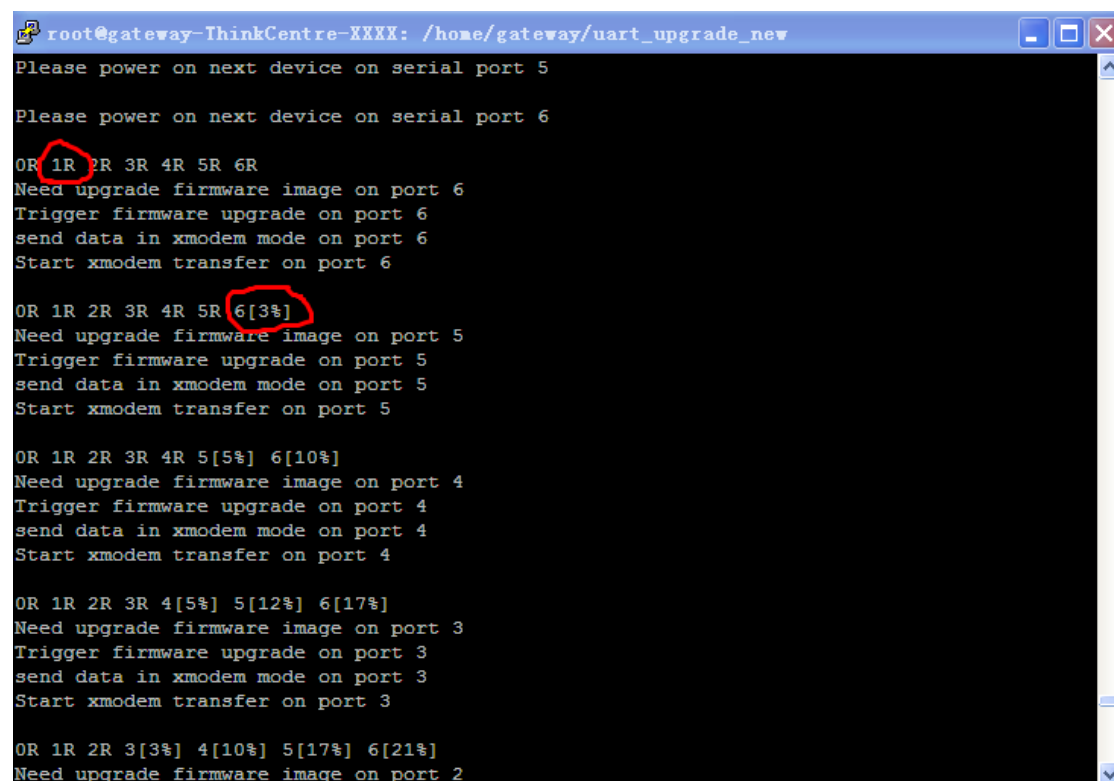
R: This port is ready. It can be connected to handset to start upgrading

[Percentage]: The firmware file downloading progress in the handset

W: Writing firmware file to the handset

S: Handset upgrading successful

F: Handset upgrading failed



```
root@gateway-ThinkCentre-XXX: /home/gateway/uart_upgrade_new
Please power on next device on serial port 5
Please power on next device on serial port 6
OR 1R 2R 3R 4R 5R 6R
Need upgrade firmware image on port 6
Trigger firmware upgrade on port 6
send data in xmodem mode on port 6
Start xmodem transfer on port 6
OR 1R 2R 3R 4R 5R 6[3%]
Need upgrade firmware image on port 5
Trigger firmware upgrade on port 5
send data in xmodem mode on port 5
Start xmodem transfer on port 5
OR 1R 2R 3R 4R 5[5%] 6[10%]
Need upgrade firmware image on port 4
Trigger firmware upgrade on port 4
send data in xmodem mode on port 4
Start xmodem transfer on port 4
OR 1R 2R 3R 4[5%] 5[12%] 6[17%]
Need upgrade firmware image on port 3
Trigger firmware upgrade on port 3
send data in xmodem mode on port 3
Start xmodem transfer on port 3
OR 1R 2R 3[3%] 4[10%] 5[17%] 6[21%]
Need upgrade firmware image on port 2
```

3. If it shows code “S”, it means the handset connected to the corresponding port has finished upgrading successfully. You can connect the next handset to be upgraded. If it shows code “F”, it means upgrading failed on the handset connected to the corresponding port. In this case, please unplug and plug the micro-USB cable back to try upgrading again.

Note: When plugging in the handset, sometimes it will show upgrading failed. We can see that port shows code “F”.

```
root@gateway-ThinkCentre-XXXX: /home/gateway/uart_upgrade_new
Device(IPEI 02C332B511) upgrade failure on port 2, TEST: BOOT: DP720_FW1_0_0_7_R1_0_0_1_0
2C332B511_9610003915A_USB_EU

Please power on next device on serial port 2

OS 1S 2F 3S 4S 5S 6S
Need upgrade firmware image on port 2
Trigger firmware upgrade on port 2

OS 1S 2[0%] 3S 4S 5S 6S
send data in xmodem mode on port 2
Start xmodem transfer on port 2

OS 1S 2[99%] 3S 4S 5S 6S
xmodem transfer finished on port 2
Firmware image is upgrading on port 2

OS 1S 2W 3S 4S 5S 6S
Same firmware version, upgrade is already done on port 2

OS 1S 2W 3S 4S 5S 6S

Device(IPEI 02C332B511) upgrade success on port 2

Please power on next device on serial port 2

OS 1S 2S 3S 4S 5S 6S ^C
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
```

4. Once all handsets finish upgrading, you can press Ctrl+c to end the script. When the script is running, a log file "uart_upgrade.log" will be printed and it logs upgrading success/failure information for handsets in each port. Enter command "cat uart_upgrade.log" to check print information. See picture below:

If upgrading is successful, it will print: Device(IPEI *) upgrade success on port *

If upgrading is failed, it will print: Device(IPEI *) upgrade failure on port *, TEST: BOOT: DP720.....

```
root@gateway-ThinkCentre-XXXX: /home/gateway/uart_upgrade_new
Same firmware version, upgrade is already done on port 2

OS 1S 2W 3S 4S 5S 6S

Device(IPEI 02C332B511) upgrade success on port 2

Please power on next device on serial port 2

OS 1S 2S 3S 4S 5S 6S ^C
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new# cat uart_upgrade.log

Factory uart upgrade tool, Run time: Tue Feb  2 20:41:02 2016

Device(IPEI 02C332B53F) upgrade success on port 6
Device(IPEI 02C332B546) upgrade success on port 5
Device(IPEI 02C332B50E) upgrade success on port 4
Device(IPEI 02C332AA69) upgrade success on port 3
Device(IPEI 02C332B4FF) upgrade success on port 1
Device(IPEI 02C332AA77) upgrade success on port 0
Device(IPEI 02C332B4FF) upgrade success on port 1
Device(IPEI 02C332B511) upgrade failure on port 2, TEST: BOOT: DP720_FW1_0_0_7_R1_0_0_1_0
2C332B511_9610003915A_USB_EU
Device(IPEI 02C332B511) upgrade success on port 2
root@gateway-ThinkCentre-XXXX:/home/gateway/uart_upgrade_new#
```