

# NCS5500 SATA FPD does not Upgrade with Auto FPD Upgrade

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## Introduction

This document describes the problems that occur when Network Convergence System 5500 (NCS5500) Serial ATA (SATA) Field Programmable Device (FPD) does not upgrade with Auto FPD Upgrade. When you upgrade to releases 6.3.3/6.5.1/7.0.1 or higher from a prior release and use the auto upgrade feature, some drives for some cards might not be upgraded.

It starts from the the aforementioned releases. The SATA FPD upgrade capability was added along with a new firmware version for some SATA types (Micron). In the case of these releases the new version is 5.00 whereas 3.00 was the old FPD version.

## NCS5500 SATA FPD does not Upgrade with Auto FPD Upgrade

Here are the steps to reproduce the issue and how to upgrade the SATA. Note that there is no need to reload the card after you upgrade its FPD.

```
sysadmin-vm:0_RP0(config)# fpd auto-upgrade enable
sysadmin-vm:0_RP0(config)# commit
Wed Sep 12 15:57:26.892 UTC
Commit complete.
sysadmin-vm:0_RP0(config)# exit
Wed Sep 12 15:57:28.187 UTC
sysadmin-vm:0_RP0# exit
Wed Sep 12 15:57:30.101 UTC
RP/0/RP0/CPU0:router#conf t
Wed Sep 12 10:57:32.154 CDT
RP/0/RP0/CPU0:router(config)#fpd auto-upgrade enable
RP/0/RP0/CPU0:router(config)#commit
```

**<after install activate and reload>**

```
RP/0/RP0/CPU0:router#show hw-module fpd
Wed Sep 12 11:51:32.195 CDT
```

```
FPD Versions
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```

| Location | Card type      | HWver | FPD device | ATR Status | Running | Programd |
|----------|----------------|-------|------------|------------|---------|----------|
| 0/0      | NC55-36X100G-S | 1.2   | MIFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/0      | NC55-36X100G-S | 1.2   | Bootloader | CURRENT    | 1.13    | 1.13     |
| 0/0      | NC55-36X100G-S | 1.2   | IOFPGA     | CURRENT    | 0.11    | 0.11     |
| 0/0      | NC55-36X100G-S | 1.2   | SATA       | NEED UPGD  | 3.00    | 3.00     |
| 0/RP0    | NC55-RP        | 1.1   | Bootloader | CURRENT    | 9.25    | 9.25     |
| 0/RP0    | NC55-RP        | 1.1   | IOFPGA     | CURRENT    | 0.09    | 0.09     |
| 0/RP1    | NC55-RP        | 1.1   | Bootloader | CURRENT    | 9.25    | 9.25     |
| 0/RP1    | NC55-RP        | 1.1   | IOFPGA     | CURRENT    | 0.09    | 0.09     |
| 0/FC0    | NC55-5504-FC   | 1.0   | Bootloader | CURRENT    | 1.75    | 1.75     |
| 0/FC0    | NC55-5504-FC   | 1.0   | IOFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/FC1    | NC55-5504-FC   | 1.0   | Bootloader | CURRENT    | 1.75    | 1.75     |
| 0/FC1    | NC55-5504-FC   | 1.0   | IOFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/FC2    | NC55-5504-FC   | 1.0   | Bootloader | CURRENT    | 1.75    | 1.75     |
| 0/FC2    | NC55-5504-FC   | 1.0   | IOFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/FC3    | NC55-5504-FC   | 1.0   | Bootloader | CURRENT    | 1.75    | 1.75     |
| 0/FC3    | NC55-5504-FC   | 1.0   | IOFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/FC5    | NC55-5504-FC   | 1.0   | Bootloader | CURRENT    | 1.75    | 1.75     |
| 0/FC5    | NC55-5504-FC   | 1.0   | IOFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/SC0    | NC55-SC        | 2.0   | Bootloader | CURRENT    | 1.74    | 1.74     |
| 0/SC0    | NC55-SC        | 2.0   | IOFPGA     | CURRENT    | 0.10    | 0.10     |
| 0/SC1    | NC55-SC        | 2.0   | Bootloader | CURRENT    | 1.74    | 1.74     |
| 0/SC1    | NC55-SC        | 2.0   | IOFPGA     | CURRENT    | 0.10    | 0.10     |

RP/0/RP0/CPU0:router# admin  
Wed Sep 12 11:51:54.259 CDT

admin connected from 127.0.0.1 using console on router

sysadmin-vm:0\_RP1# upgrade hw-module location 0/0 fpd ?  
Possible completions:

Bootloader IOFPGA SATA all

sysadmin-vm:0\_RP1# upgrade hw-module location 0/0 fpd all

Wed Sep 12 16:52:07.859 UTC

sysadmin-vm:0\_RP1# 0/RP1/ADMIN0:Sep 12 11:52:10.861 CDT: fpdserv[4429]: %INFRA-FPD\_Manager-1-UPGRADE\_ALERT : Upgrade for the following FPDs has been committed:

0/RP1/ADMIN0:Sep 12 11:52:10.861 CDT: fpdserv[4429]: %INFRA-FPD\_Manager-1-UPGRADE\_ALERT :

| Location  | FPD name | Force |
|---|----------|-------|
| 0/RP1/ADMIN0:Sep 12 11:52:10.861 CDT: fpdserv[4429]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : |          |       |
| =====   |          |       |

|   |      |       |
|---|------|-------|
| 0/RP1/ADMIN0:Sep 12 11:52:10.864 CDT: fpdserv[4429]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : |      |       |
| 0/0   | SATA | FALSE |

|   |        |       |
|---|--------|-------|
| 0/RP1/ADMIN0:Sep 12 11:52:10.864 CDT: fpdserv[4429]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : |        |       |
| 0/0   | IOFPGA | FALSE |

|   |            |       |
|---|------------|-------|
| 0/RP1/ADMIN0:Sep 12 11:52:10.864 CDT: fpdserv[4429]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : |            |       |
| 0/0   | Bootloader | FALSE |

0/0/ADMIN0:Sep 12 11:52:16.876 CDT: sata\_fpd[3179]: %INFRA-FPD\_Driver-1-UPGRADE\_ALERT : FPD SATA@0/0 image programming completed with UPGRADE DONE state Info: [SATA FPD upgrade Complete]

RP/0/RP0/CPU0:Sep 12 11:52:16.871 CDT: fpd-serv[427]: %PKT\_INFRA-FM-3-FAULT\_MAJOR : ALARM\_MAJOR : FPD-NEED-UPGRADE : CLEAR : 0/0:

sysadmin-vm:0\_RP1#

sysadmin-vm:0\_RP1#

sysadmin-vm:0\_RP1#

sysadmin-vm:0\_RP1# exit

Wed Sep 12 16:52:27.767 UTC

RP/0/RP0/CPU0:router#show hw-module fpd

Wed Sep 12 11:52:33.810 CDT

FPD Versions

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| Location | Card type      | HWver | FPD device | ATR Status | Running | Programd |
|----------|----------------|-------|------------|------------|---------|----------|
| 0/0      | NC55-36X100G-S | 1.2   | MIFPGA     | CURRENT    | 0.07    | 0.07     |
| 0/0      | NC55-36X100G-S | 1.2   | Bootloader | CURRENT    | 1.13    | 1.13     |

|       |                |     |            |         |      |      |
|-------|----------------|-----|------------|---------|------|------|
| 0/0   | NC55-36X100G-S | 1.2 | IOFPGA     | CURRENT | 0.11 | 0.11 |
| 0/0   | NC55-36X100G-S | 1.2 | SATA       | CURRENT | 5.00 | 5.00 |
| 0/RP0 | NC55-RP        | 1.1 | Bootloader | CURRENT | 9.25 | 9.25 |
| 0/RP0 | NC55-RP        | 1.1 | IOFPGA     | CURRENT | 0.09 | 0.09 |
| 0/RP1 | NC55-RP        | 1.1 | Bootloader | CURRENT | 9.25 | 9.25 |
| 0/RP1 | NC55-RP        | 1.1 | IOFPGA     | CURRENT | 0.09 | 0.09 |
| 0/FC0 | NC55-5504-FC   | 1.0 | Bootloader | CURRENT | 1.75 | 1.75 |
| 0/FC0 | NC55-5504-FC   | 1.0 | IOFPGA     | CURRENT | 0.07 | 0.07 |
| 0/FC1 | NC55-5504-FC   | 1.0 | Bootloader | CURRENT | 1.75 | 1.75 |
| 0/FC1 | NC55-5504-FC   | 1.0 | IOFPGA     | CURRENT | 0.07 | 0.07 |
| 0/FC2 | NC55-5504-FC   | 1.0 | Bootloader | CURRENT | 1.75 | 1.75 |
| 0/FC2 | NC55-5504-FC   | 1.0 | IOFPGA     | CURRENT | 0.07 | 0.07 |
| 0/FC3 | NC55-5504-FC   | 1.0 | Bootloader | CURRENT | 1.75 | 1.75 |
| 0/FC3 | NC55-5504-FC   | 1.0 | IOFPGA     | CURRENT | 0.07 | 0.07 |
| 0/FC5 | NC55-5504-FC   | 1.0 | Bootloader | CURRENT | 1.75 | 1.75 |
| 0/FC5 | NC55-5504-FC   | 1.0 | IOFPGA     | CURRENT | 0.07 | 0.07 |
| 0/SC0 | NC55-SC        | 2.0 | Bootloader | CURRENT | 1.74 | 1.74 |
| 0/SC0 | NC55-SC        | 2.0 | IOFPGA     | CURRENT | 0.10 | 0.10 |
| 0/SC1 | NC55-SC        | 2.0 | Bootloader | CURRENT | 1.74 | 1.74 |
| 0/SC1 | NC55-SC        | 2.0 | IOFPGA     | CURRENT | 0.10 | 0.10 |