TECHNICAL NOTE
STORMSHIELD NETWORK SECURITY

SN-L-SERIES - UPDATING THE BIOS TO VERSION R1.05

Product concerned: SN-L-Series 2200, SN-L-Series 3200

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Change log

Date	Description
July 22, 2025	Procedure for updating the BIOS to version R1.05 from the web administration interface added.
June 12, 2025	New document

Getting started

This document describes the procedure of updating BIOS on an SN-L-Series (SN-L-Series-2200 and SN-L-Series-3200) model firewall from version R1.02 to version R1.05.

INFORMATION
BIOS version R1.05 is essential for fixing instability issues that the Intel® processors on these firewalls encounter.

The BIOS can be updated from a USB key or from the firewall's web administration interface.

- Once you have updated the BIOS from a USB key:
  - The password to access the UEFI control panel will be deleted. You will need to set it again.
  - Secure Boot will be disabled. You will need to enable it again.
  - The TPM will no longer be sealed. You will need to seal it again.

These procedures are described in the section Required operations following a BIOS update from a USB key in this technical note.

- Once you have updated the BIOS from the firewall's web administration interface:
  - The password to access the UEFI control panel will be deleted. You will need to set it again.
  - The TPM will no longer be sealed. You will need to seal it again.

These procedures are described in the section Required operations following a BIOS update from the web administration interface in this technical note.

Updating the BIOS from a USB key

This section describes the procedure of updating BIOS on an SN-L-Series (SN-L-Series-2200 and SN-L-Series-3200) model firewall to version R1.05 from a USB key.

Required equipment

- A computer with a terminal emulator installed, e.g., Putty with a baud rate of 115200, and the PL23XX USB-to-Serial driver installed if the firewall is connected over a USB-C port,
- A blank USB flash drive formatted to FAT32,
- A USB-A to USB-C cable, or an RJ45 to DB9 serial cable (RS232),
- An SN-L-Series model firewall running in BIOS version R1.02.

> **NOTE**
> This operation can also be performed directly on a monitor, by using an HDMI/HDMI cable.
> In this case, plug a USB keyboard into the SNS firewall as well.

Preparing the USB flash drive

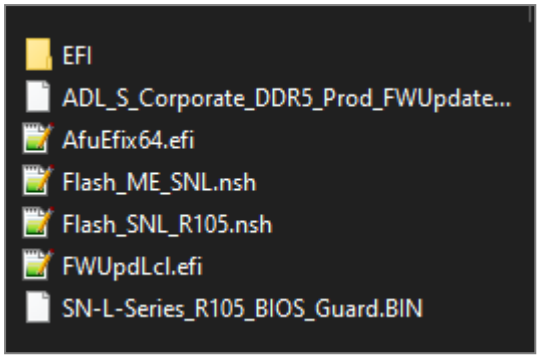
This section describes the procedure of preparing the USB drive that will be used during the update.
Ensure that your USB flash drive is blanks and formatted to FAT32.

Copying the update utility to the USB flash drive

1. Download the most recent version of the *AMI Firmware Update Tool* (AFU) available at the following link: https://www.ami.com/static-downloads/Aptio_V_AMI_Firmware_Update_Utility.zip
2. Unzip the archive *Aptio_V_AMI_Firmware_Update_Utility.zip*.
3. Unzip the archive *AfuEfi64.zip* found in the sub-folder *Aptio_V_AMI_Firmware_Update_Utility/afu/afuefi/64*.
4. Copy the file *AfuEfix64.efi* found in the sub-folder *Aptio_V_AMI_Firmware_Update_Utility/afu/afuefi/64/AfuEfi64* **to the root folder** of your USB flash drive.

Downloading BIOS version R1.05

1. In your Mystormshield personal area, go to **Downloads** > **STORMSHIELD NETWORK SECURITY** > **TOOLS** > **STORMSHIELD NETWORK SECURITY-TOOLS** > **SN-L-Series BIOS R105** to download the file *SN-L-Series_BIOS_R105.zip.*
2. Verify the integrity of the downloaded file using its SHA256 hash: 7c64d14d7dcd68c649bd4741931f6c04d80da539bddce758376e76fac1728a6b.
3. Unzip the archive *SN-L-Series_BIOS_R105.zip* to the **root folder** of your USB flash drive.
4. Verify the root folder of your USB flash drive. You should find the following files and folders in it:



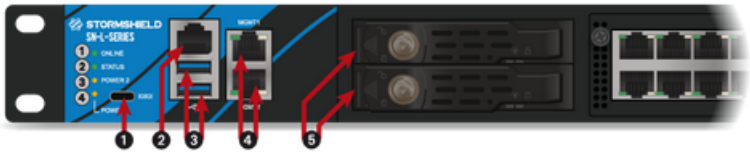
5. Verify the integrity of the binary file *SN-L-Series_R105_BIOS_Guard.bin* using its SHA256 hash:
   67c47695800c1a73e8cfb430173c84ba61dcbfad5b99902a41d3ea70a612e31c.
6. Verify as well the integrity of the binary file *ADL_S_Corporate_DDR5_Prod_FWUpdate.bin* using its SHA256 hash:
   97d1d80d5fa60a86df36d456629ab775bd8b139b913741dc5306f37e0b83abe9.

Your USB flash drive is ready to update BIOS to version R1.05.

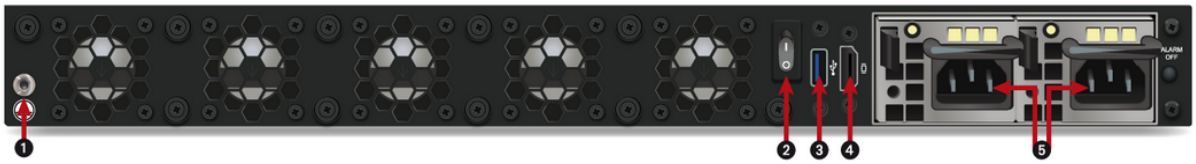
Updating BIOS

This section describes connectors on SN-L-Series (SN-L-Series -2200 and SN-L-Series -3200) firewalls, and the successive steps to follow in this order to update the BIOS to version R1.05 from a USB key.

Most of the connectors on these firewall models are located on the front panel, except the HDMI port, which is located on the rear panel of the firewall.



❶: USB-C serial port in console mode
❷: RJ45 serial port in console mode
❸: USB 3.0 port
❹: Ports dedicated to the management of the appliance (MGMT1 and MGMT2)
❺: SSD racks for log storage



❶: Connection of the protective earth circuit
❷: On/off button
❸: USB 3.0 port
❹: HDMI port: for plugging in the monitor
❺: Mains sockets for redundant power supplies.

Connecting devices to the firewall

- Connect the computer that is equipped with a terminal emulator to the firewall using the USB-A to USB-C cable on the firewall side (this connection to a USB-C port requires the installation of the PL23XX USB-to-Serial driver), or the RJ45 to DB9 serial cable.
- The firewall can also be connected directly on a monitor, by using an HDMI/HDMI cable. In this case, plug a keyboard into the SNS firewall.

Checking the BIOS version on the firewall

1. Connect to the firewall system in console or SSH using a Putty program.
2. Authenticate by using the *admin* account on the firewall system.
3. Enter the command: `dmidecode -s bios-version`
   The firewall will show the BIOS version, which has to be R1.02.

Disabling Secure Boot

During the BIOS update, Secure Boot has to be disabled, so that the firewall can be started on the USB key that was prepared earlier. To disable Secure Boot, refer to the section Disabling Secure Boot in the SNS firewall's UEFI in the technical note *Managing Secure Boot in SNS firewalls' UEFI*.

Updating BIOS on the firewall

IMPORTANT
The update process is fully automatic and lasts around five minutes.
Once the process is run, it **must never** be interrupted, and the firewall must not be disconnected from the power supply. If this occurs, your firewall will be completely unable to run.

1. As SN-L-Series firewalls have two internal power supply units to provide a redundant power supply, ensure that you have plugged in both power cords to the electrical mains.
2. Insert the USB drive that was prepared earlier into a USB port.
3. Restart the firewall by using the `reboot` command.

4. In the command prompt, run the executable file `Flash_SNL_R105.nsh`. The update process will then start:

```
Flash_SNL_R105.nsh> AfuEfix64.efi SN-L-Series_R105_BIOS_Guard.BIN /BIOSALL
+-------------------------------------------------------------------------+
|                AMI Firmware Update Utility v5.16.04.0135                |
|      Copyright (c) 1985-2024, American Megatrends International LLC.    |
|         All rights reserved. Subject to AMI licensing agreement.        |
+-------------------------------------------------------------------------+
 - System BIOS Guard Support ........ Enabled
 Reading flash ..................... Done
 - ME Data Size Checking ............ Pass
 - System Secure Flash .............. Enabled
 - FFS Checksums .................... Pass
 Loading BIOS Guard File To Memory .. Done
 FV_BB1_BACKUP ..................... (100%)
 FV_BB_AFTER_MEMORY_BACKUP ......... (100%)
 FV_FSP_S_BACKUP ................... (100%)
 FV_FSP_M_BACKUP_00 ................ ( 50%)
 FV_FSP_M_BACKUP_01 ................ (100%)
 FV_FSP_T_BACKUP ................... (100%)
 FV_BB_BACKUP ...................... (100%)
```

5. When the update process ends, run the command `reset` to restart the firewall, which will automatically start up on the USB drive.

Updating the Intel® Management Engine firmware

After the BIOS update, the Intel® Management Engine firmware also needs to be updated.

1. In the command prompt, run the executable file `Flash_ME_SNL.nsh`:

```
FS0:\> Flash_ME_SNL.nsh
FS0:\> FWUpdLcl.efi ADL_S_Corporate_DDR5_Prod_FWUpdate.bin

Intel (R) FW Update Sample Application

Loading file into memory...

FW type is: Corporate.
PCH SKU is: H.

Executing Full FW Update.

Warning: Do not exit the process or power off the machine before the firmware update process ends.
Sending the update image to FW for verification:  [ COMPLETE ]



FW Update:  [ 100% (|)] Do not Interrupt.
FW Update completed successfully and a reboot will run the new FW.
```

2. When the update process ends, shut down the firewall by using the `reset -s` command.
3. Unplug both power supply cords from your firewall.
4. Unplug the USB drive from your firewall.
5. Wait five minutes before plugging both power cords back in.
6. Start your firewall by holding down the Power button located on the rear panel of the firewall.

Checking the BIOS version and the Intel® Management Engine firmware version on the firewall after the update

1. Press **[Del]** several times to stop the startup sequence and access the BIOS.
2. Go to the **Main** tab and check the BIOS version, which should be R1.05.

3. Go to the **Advanced** > **PCH-FW** tab and check the Intel® Management Engine (ME Firmware Version), which should be 16.1.35.2557.
4. Press **Esc**.

Required operations following a BIOS update from a USB key

Once you have updated the BIOS from a USB key, launch the following operations in this order:

1. Set the password to access the firewalls' UEFI control panel, by following the instructions in the technical note Protecting access to the configuration panel of the UEFI on SNS firewalls.
2. Enable Secure Boot by following the instructions in the section Enabling Secure Boot in the SNS firewall's UEFI in the technical note *Managing Secure Boot in SNS firewalls' UEFI*.
3. If the TPM had been initialized on the firewall, seal it. This is because at the end of BIOS update, trusted hash values have changed, preventing the decryption of protected private keys. To seal the TPM, refer to the section Sealing the TPM in the technical note *Configuring the TPM and protecting private keys in SNS firewall certificates*.
   For more information on the TPM and the PCR, refer to the section How it works in the technical note *Configuring the TPM and protecting private keys in SNS firewall certificates*.

Updating the BIOS from the firewall's web administration interface

This section presents the steps that are required to update the BIOS to version R1.05 an SN-L-Series firewall (SN-L-Series-2200 and SN-L-Series-3200) from the web administration interface.

Required equipment

- A computer that belongs to the same network as the firewall, which is connected to the Internet and is equipped with a browser,
- An SN-L-Series model firewall running exclusively in BIOS version R1.02.

Downloading the BIOS update file

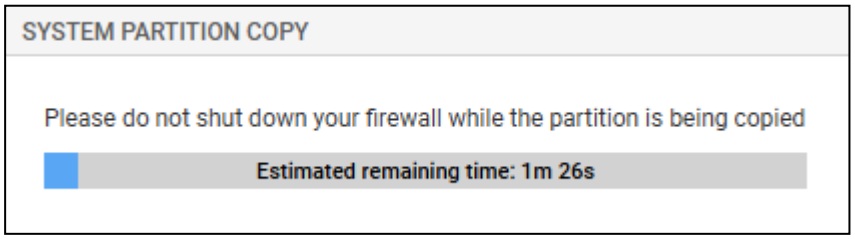
- In your Mystormshield personal area, go to **Downloads** > **STORMSHIELD NETWORK SECURITY** > **TOOLS** > **STORMSHIELD NETWORK SECURITY-TOOLS** to download the file *Series_BIOS_R105_remote_update.maj.*
- Verify the integrity of the downloaded file using its SHA256 hash: edb46d4f342d70185677727f2e707bb79992d689c0c83789461480738eede887.

Checking the BIOS version on the firewall

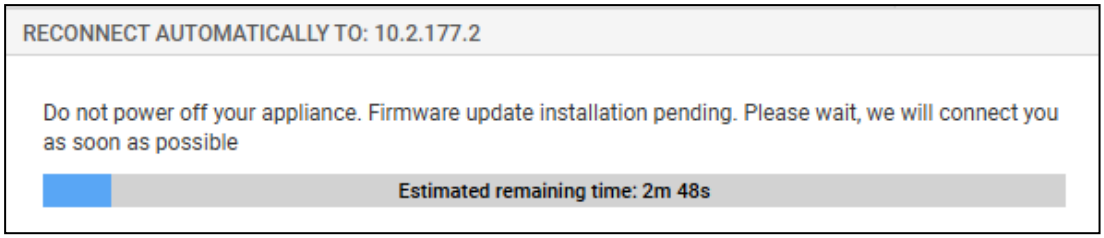
1. Connect to the firewall system in console or SSH using a Putty program.
2. Authenticate by using the *admin* account on the firewall system.
3. Enter the command: `dmidecode -s bios-version`.
   The firewall will show the BIOS version, which has to be R1.02.

Updating BIOS on the firewall

1. In the firewall's web administration interface, go to **Configuration** > **System** > **Maintenance**, **System update** tab.
2. Select the update file *SN-L-Series_BIOS_R105_remote_update.maj* that was downloaded earlier.
3. Click on **Update firmware**.
4. Wait until the update process is completed. Two pop-up windows will appear in succession:
   - The first window indicates the progress of the update file transfer,



   - The second window indicates the progress of the update.



During the update, the firewall will restart several times, which is normal.

5. By going back to the page to connect to the firewall's web administration interface, you will see that the update is complete.

Checking the BIOS version on the firewall after an update

1. Connect to the firewall system in console or SSH using a Putty program.
2. Authenticate by using the *admin* account on the firewall system.
3. Enter the command: `dmidecode -s bios-version`
   The firewall will show the BIOS version, which has to be R1.05.

Required operations following a BIOS update from the web administration interface

Once you have updated the BIOS from the firewall's web administration interface, launch the following operations in this order:

1. Set the password to access the firewalls' UEFI control panel, by following the instructions in the technical note Protecting access to the configuration panel of the UEFI on SNS firewalls.
2. If the TPM had been initialized on the firewall, seal it. This is because after a BIOS update, trusted hash values have changed, preventing the decryption of protected private keys. To seal the TPM, refer to the section Sealing the TPM in the technical note *Configuring the TPM and protecting private keys in SNS firewall certificates*.
   For more information on the TPM and the PCR, refer to the section How it works in the technical note *Configuring the TPM and protecting private keys in SNS firewall certificates*.

Further reading

Additional information and answers to some of your questions may be found in the Stormshield knowledge base (authentication required).

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