DGX-1 System Firmware Update Container

Release Notes
Table of Contents

Chapter 1. DGX-1 Firmware Update Container Overview ....................................................... 1

Chapter 2. Using the DGX-1 FW Update Utility ................................................................. 3
  2.1. Using NVSM ..................................................................................................................... 3
  2.2. Using the .run File .......................................................................................................... 4
  2.3. Using docker run ........................................................................................................... 4
  2.4. Command and Argument Summary ............................................................................. 4

Chapter 3. Version 20.10.2 .......................................................................................... 6
  3.1. Special Instructions for all Updates ............................................................................ 7
  3.2. Special Instructions for Updating the BMC Using the Web UI ................................ 8
  3.3. Known Issues .............................................................................................................. 8
      3.3.1. Unable to Log in to the BMC Web UI ................................................................. 8

Chapter 4. Previous Releases ....................................................................................... 10
  4.1. Version 19.10.7 .......................................................................................................... 10
  4.2. Version 19.04.1 .......................................................................................................... 12
      4.2.1. Known Issues ...................................................................................................... 14
          4.2.1.1. VBIOS Update Status Only Shows One GPU ............................................ 14
          4.2.1.2. Recovery for PSU Update Failure ............................................................... 14
          4.2.1.3. Update May Stop with an Unexpected Error ............................................ 15
          4.2.1.4. Unexpected Error May Occur Upon Exiting the Container .................... 15
  4.3. Version 20181107 ..................................................................................................... 15
      4.3.1. Known Issues .................................................................................................... 16
          4.3.1.1. Recovery for PSU Update Failure ............................................................... 16
          4.3.1.2. SNMPv3 Traps are not Available for the BMC ......................................... 16

Chapter 5. DGX-1 System FW Changes ...................................................................... 17
  5.1. DGX-1 BMC Changes ............................................................................................... 17
  5.2. DGX-1 SBIOS Changes ............................................................................................. 18
Chapter 1. DGX-1 Firmware Update Container Overview

The NVIDIA ® DGX-1 Firmware Update container is the preferred method for updating firmware on the DGX-1 System. It provides an easy method for updating the firmware to the latest released versions, and uses the standard method for running Docker containers.

This document describes firmware components that can be updated, any known issues, and how to run this container.

Support

The DGX-1 firmware update container is supported on NVIDIA DGX-1 servers running on Ubuntu.

The container is currently not supported on servers running on Red Hat Enterprise Linux or CentOS.

Features

- Automates firmware update for DGX-1 firmware, such as the system BIOS, BMC, and power supplies.
- Provides flexibility to update individual or all firmware components.
- Embeds the following:
  - Qualified firmware binaries for supported components
  - Flash update utilities and supporting dependencies
  - Manifest file which lists
    - Target platform and firmware version numbers
    - Sequence in which firmware update should be applied
    - “On-Error” policy for every firmware component
- Supports interactive and non-interactive firmware update.

How to Use

The NVIDIA DGX-1 System software includes Docker software required to run the container.
See the NVIDIA DGX-1 System User Guide for instructions on updating the system firmware using this container.
Chapter 2. Using the DGX-1 FW Update Utility

The NVIDIA DGX-1 System Firmware Update utility is provided in a tar ball file and also as a .run file. Copy the files to the DGX-1 system, then update the firmware using one of the following three methods:

- **NVSM** provides convenient commands to update the firmware using the firmware update container
- **Using Docker** to run the firmware update container
- **Using the .run file** which is a self-extracting package embedding the firmware update container tarball

**CAUTION:** Stop all unnecessary system activities before attempting to update firmware, and do not add additional processing loads while an update is in progress. A high workload can disrupt the firmware update process and result in an incapacitated component.

When initiating an update, the update software assists in determining the activity state of the DGX system and provides a warning if it detects that activity levels are above a predetermined threshold. If the warning is encountered, you are strongly advised to take action to reduce the workload before proceeding with the update.

Fan speeds may increase while updating the BMC firmware. This is a normal part of the BMC firmware update process.

### 2.1. Using NVSM

The NVIDIA DGX-2 system software includes Docker software required to run the container.

1. Copy the tar ball to a location on the DGX system.
2. From the directory where you copied the tarball file, enter the following command to load the container image.
   
   ```
   $ sudo docker load -i nvfw-dgx1_20.10.2_201005.tar.gz
   ```
3. To verify that the container image is loaded, enter the following.
   
   ```
   $ sudo docker images
   ```
   ```
   REPOSITORY    TAG
   nvfw-dg1      20.10.2
   ```
4. Using NVSM interactive mode, enter the firmware update module.
   
   ```
   $ sudo nvsm
   nvsm-> cd systems/localhost/firmware/install
   ```

5. Set the flags corresponding to the action you want to take.
   
   ```
   $ nvsm(/system/localhost/firmware/install)-> set Flags=<option>
   ```

   See the **Command and Argument Summary** section below for the list of common flags.

6. Run the command.

   ```
   $ nvsm(/system/localhost/firmware/install)-> start
   ```

### 2.2. Using the .run File

The update container is also available as a run file that does not require a Docker installation.

1. After obtaining the .run file, make the file executable.

   ```
   $ chmod +x nvfw-dgx1_20.10.2_201005.run
   ```

2. Use the following syntax to run the container image.

   ```
   $ sudo nvfw-dgx1_20.10.2_201005.run <command> <[arg1] [arg2] ... [argn]
   ```

   See the **Command and Argument Summary** section below for the list of common commands and arguments.

### 2.3. Using `docker run`

The NVIDIA DGX-2 system software includes Docker software required to run the container.

1. Copy the tar ball to a location on the DGX system.

2. From the directory where you copied the tarball file, enter the following command to load the container image.

   ```
   $ sudo docker load -i nvfw-dgx1_20.10.2_201005.tar.gz
   ```

3. To verify that the container image is loaded, enter the following.

   ```
   $ sudo docker images
   ```

<table>
<thead>
<tr>
<th>REPOSITORY</th>
<th>TAG</th>
</tr>
</thead>
<tbody>
<tr>
<td>nvfw-dg1</td>
<td>20.10.2</td>
</tr>
</tbody>
</table>

4. Use the following syntax to run the container image.

   ```
   $ sudo docker run --rm --privileged -ti -v /:/hostfs nvfw-dgx1_20.010.2 <command> <[arg1] [arg2] ... [argn]
   ```

   See the **Command and Argument Summary** section below for the list of common commands and arguments.

### 2.4. Command and Argument Summary

The following are common commands and arguments.

- **Show the manifest**
show_fw_manifest

- NVSM Example: $ nvsm(/system/localhost/firmware/install)-> set Flags=show_fw_manifest
- Docker Run Example: $ sudo docker run --rm --privileged -ti -v /:/hostfs nvfw-dg1:20.10.2 show_fw_manifest
- .run File Example: $ ./nvfw-dgx1_20.10.2_201005.run show_fw_manifest

- Show version information
  show_version

- NVSM Example: $ nvsm(/system/localhost/firmware/install)-> set Flags=show_version
- Docker Run Example: $ sudo docker run --rm --privileged -ti -v /:/hostfs nvfw-dg1:20.10.2 show_version
- .run File Example: $ ./nvfw-dgx1_20.10.2_201005.run show_version

- Check the onboard firmware against the manifest and update all down-level firmware.
  update_fw all

- NVSM Example: $ nvsm(/system/localhost/firmware/install)-> set Flags=update_fw all
  For NVSM, an escape is needed before blank spaces when setting the flags.
- Docker Run Example: $ sudo docker run --rm --privileged -ti -v /:/hostfs nvfw-dg1:20.10.2 update_fw all
- .run File Example: $ ./nvfw-dgx1_20.10.2_201005.run update_fw all

- Check the specified onboard firmware against the manifest and update if down-level.
  update_fw [fw]
  Where [fw] corresponds to the specific firmware as listed in the manifest. Multiple components can be listed within the same command. The following are examples of updating the BMC and SBIOS.

- NVSM Example: $ nvsm(/system/localhost/firmware/install)-> set Flags=update_fw\ BMC\ SBIOS
  For NVSM, an escape is needed before blank spaces when setting the flags.
- Docker Run Example: $ sudo docker run --rm --privileged -ti -v /:/hostfs nvfw-dg1:20.10.2 update_fw BMC SBIOS
- .run File Example: $ ./nvfw-dgx1_20.10.2_201005.run update_fw BMC SBIOS
Chapter 3. Version 20.10.2

The DGX-1 Firmware Update container version 20.10.2 is available.

- **Package name:** nvfw-dgx1_20.10.2_201005.tar.gz
- **Image name:** nvfw-dgx1:20.10.2
- **Run file name:** nvfw-dgx1_20.10.2_201005.run

**Highlights and Changes in this Release**

- The BMC update includes software security enhancements.
  See the [NVIDIA Security Bulletin 5010](#) for details.
- Before using the container to update firmware on systems installed with DGX OS release later than 4.99.x, first stop certain NVIDIA services. See [Special Instructions for all Updates](#).

**Contents of the DGX-1 Firmware Update Container**

This container includes the firmware binaries and update utilities for the firmware listed in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
<th>Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC</td>
<td>3.38.30</td>
<td>Security enhancements and updates.</td>
</tr>
<tr>
<td>SBIOS</td>
<td>S2S_3A10</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>SSD (Samsung SM863A)</td>
<td>GXM1103Q</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with V100, 16 GB)</td>
<td>88.00.18.00.01</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with V100, 32 GB)</td>
<td>88.00.80.00.04</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with P100)</td>
<td>86.00.41.00.05</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>PSU</td>
<td>00.03.07</td>
<td>No change from previous release.</td>
</tr>
</tbody>
</table>
Special Notes

⚠️ **Note:** If updating the BMC from any version earlier than 3.27.30, the update can take from 30 to 50 minutes to complete.

- When updates to the BMC or PSU are initiated,
  - The BMC is (cold) reset to be put in a known good state before the update, then
  - Additional logs are gathered for troubleshooting purposes and made available in `/var/log/comp_fw_log.txt`
    - The logs are gathered before updating and upon completion of the update or in the event of an update failure.
- [On DGX systems installed with DGX OS 4.99.x or earlier]: To prevent NVSM services from interfering with BMC and PSU updates, the container stops the following services before applying the update:
  - `nvsm-apis-gpumonitor`
  - `nvsm-apis-plugin-storage`
  - `nvsm-apis.selwatcher`
  - `nvsm-apis-plugin-memory`
  - `nvsm-apis-plugin-environment`
  - `nvsm-sys-dshm_nvsm-env-dshm`
  - `nvsm-storage-dshm`
    - System health monitor will not be available until firmware update completes.
- For the PSU update, the container implements a protective check which requires the system to be fully redundant (all four supplies are installed and in a healthy state) in order for the update to occur.

  If you are using only three of the four PSUs, the full power redundancy requirement can be overridden with the Docker run environment (DGX_MAX_PSU) as follows.

```
docker run -e DGX_MAX_PSU=3 --privileged -ti -v /:/hostfs <container_name> update_fw
```

### 3.1. Special Instructions for all Updates

**Updating Firmware on DGX Systems Installed with DGX OS Release Later than 4.99.x**

You need to stop certain NVIDIA services before using the container to update firmware on systems installed with DGX OS later than 4.99.x.
If you run the container using either the `docker run` or `.run` file method, then stop services first by issuing the following.

```
$ sudo systemctl stop nvsm dcgm nvidia-persistenced.service
```

If you run the container using NVSM CLI, then stop services first by issuing the following (does not include stopping nvsm).

```
$ sudo systemctl stop dcgm nvidia-persistenced.service
```

### 3.2. Special Instructions for Updating the BMC Using the Web UI

Before updating the BMC using the Web UI, refer to the following instructions to ensure the updates are successful.

#### BMC Updates via the Web UI

**When Preserving Settings**

1. Navigate to Maintenance > Firmware Update, select IPMI, Network, and SEL, then proceed with updating the BMC.
2. After updating the BMC, issue the following from the command line.
   ```
   $ sudo ipmitool raw 0x32 0x6 1
   $ sudo ipmitool mc reset cold
   ```

   **Note:** You cannot preserve user settings when downgrading to a previous version of the BMC. Attempting to do so will result in a failure to log in to the BMC.

**When Not Preserving Settings**

Navigate to Maintenance > Firmware Update, clear all preservation items, then proceed with updating the BMC.

### 3.3. Known Issues

#### 3.3.1. Unable to Log in to the BMC Web UI

**Issue**

You may not be able to log in to the BMC Web UI after updating to 3.38.30 (using the firmware update container or through the Web UI) or after a factory reset.
Explanation

To work around if you encounter the issue, reset the BMC from the command line by issuing the following.

$ sudo ipmitool mc reset cold
Chapter 4. Previous Releases

4.1. Version 19.10.7

The DGX-1 Firmware Update container version 19.10.7 is available.

- Package name: nvfw-dgx1_19.10.7.tar.gz
- Image name: nvfw-dgx1:19.10.7
- Run file name: nvfw-dgx1_19.10.7.run

Obtain the files from the NVIDIA Enterprise Support announcement System Firmware Upgrade 19.10.7 for all NVIDIA DGX-1 Server (requires login).

Contents of the DGX-1 Firmware Update Container

This container includes the firmware binaries and update utilities for the firmware listed in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
<th>Key Changes</th>
</tr>
</thead>
</table>
| BMC                | 3.36.30   | - Added HTML5 support for the Remote Console  
|                    |           | - Removed Java-based Remote Console  
<p>|                    |           | <strong>Note:</strong> Be sure to clear your browser cache to see the new Remote Console. |
| SBIOS              | S2S_3A10  | - Incorporated Intel microcode to mitigate new side channel attacks (Zombieload v1). |
| SSD (Samsung SM863A) | GXM1103Q | No change from previous release. |</p>
<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
<th>Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBIOS (DGX-1 with V100, 16 GB)</td>
<td>88.00.18.00.01</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with V100, 32 GB)</td>
<td>88.00.80.00.04</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with P100)</td>
<td>86.00.41.00.05</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>PSU</td>
<td>00.03.07</td>
<td>No change from previous release.</td>
</tr>
</tbody>
</table>

**Changes in the Container in this Release**

- Fixed unexpected error appearing upon exiting the container after successful PSU update.
- Fixed BMC update failing with an unexpected error.
- Fixed `show_version` command reporting “???” for the VBIOS version.
- Fixed firmware update errors on EL7-19.07.
- Fixed update output only showing the last VBIOS updated, instead of listing all the VBIOSes updated.

**Special Notes**

**Note:** If updating the BMC from any version earlier than 3.27.30, the update can take from 30 to 50 minutes to complete.

- When updates to the BMC or PSU are initiated,
  - The BMC is [cold] reset to be put in a known good state before the update, then
  - Additional logs are gathered for troubleshooting purposes and made available in `/var/log/comp_fw_log.txt`. The logs are gathered before updating and upon completion of the update or in the event of an update failure.
- To prevent NVSM services from interfering with BMC and PSU updates, the container stops the following services before applying the update:
  - `nvsm-apis-gpumonitor`
  - `nvsm-apis-plugin-storage`
  - `nvsm-apis-selwatcher`
  - `nvsm-apis-plugin-memory`
  - `nvsm-apis-plugin-environment`
  - `nvsm-sys-dshm, nvsm-env-dshm`
  - `nvsm-storage-dshm`

  System health monitor will not be available until firmware update completes.
For the PSU update, the container implements a protective check which requires the system to be fully redundant (all four supplies are installed and in a healthy state) in order for the update to occur.

If you are using only three of the four PSUs, the full power redundancy requirement can be overridden with the Docker run environment [DGX_MAX_PSU] as follows.

docker run -e DGX_MAX_PSU=3 --privileged -ti -v /:/hostfs <container_name> update_fw

### 4.2. Version 19.04.1

The DGX-1 Firmware Update container version 19.04.1 is available.

- Package name: nvfw-dgx1_19.04.1.tar.gz
- Image name: nvfw-dgx1:19.04.1
- Run file name: nvfw-dgx1_19.04.1.run

Obtain the files from the NVIDIA Enterprise Support announcement [DGX-1 Firmware Update Container Version 19.04.1](requires login).

**Contents of the DGX-1 Firmware Update Container**

This container includes the firmware binaries and update utilities for the firmware listed in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
<th>Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC</td>
<td>3.30.30</td>
<td><strong>Note</strong>: The BMC update process can take about 50 minutes to complete if updating from a version earlier than 3.27.30.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Added support for sending SNMPv3 Traps.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Added GPU Page Retirement tracking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Added ability to configure KVM and VMedia via ipmitool.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Added ability to enabled/disable SNMPv3 via ipmitool.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Implemented IPMI command for OEM debugging.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Fixed BMC/SBIOS providing incorrect mapping for memory DIMM errors.</td>
</tr>
</tbody>
</table>
Previous Releases

DGX-1 System Firmware Update Container

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
<th>Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBIOS</td>
<td>3A08</td>
<td>▶ Fixed PSU firmware update disruption by implementing mutual exclusion logic in the BMC.</td>
</tr>
<tr>
<td>SSD [Samsung SM863A]</td>
<td>GXM1103Q</td>
<td>▶ Fixed BMC/SBIOS providing incorrect mapping for memory DIMM errors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ USB ports default to USB 3.0.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with V100, 16 GB)</td>
<td>88.00.18.00.01</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with V100, 32 GB)</td>
<td>88.00.80.00.04</td>
<td>Supports all HBM memory sources.</td>
</tr>
<tr>
<td>VBIOS (DGX-1 with P100)</td>
<td>86.00.41.00.05</td>
<td>No change from previous release.</td>
</tr>
<tr>
<td>PSU</td>
<td>00.03.07</td>
<td>Added to the container.</td>
</tr>
</tbody>
</table>

Changes in the Container in this Release

Note: If updating the BMC from any version earlier than 3.27.30, the update can take from 30 to 50 minutes to complete.

▶ Added integration with NVSM (requires DGX OS Server 4.0.5 or later).

This allows firmware to be updated using a .run file that simplifies the steps needed. See the DGX-1 User Guide for instructions on obtaining and using the .run file.

▶ Changed the container naming convention and now provide one file for all DGX-1 configurations.

▶ When updates to the BMC or PSU are initiated,

▶ The BMC is [cold] reset to be put in a known good state before the update, then

▶ Additional logs are gathered for troubleshooting purposes and made available in /var/log/comp_fw_log.txt.

The logs are gathered before updating and upon completion of the update or in the event of an update failure.

▶ To prevent NVSM services from interfering with BMC and PSU updates, the container stops the following services before applying the update:

▶ nvsm-apis-gpumonitor
▶ nvsm-apis-plugin-storage
- nvsm-apis-selwatcher
- nvsm-apis-plugin-memory
- nvsm-apis-plugin-environment
- nvsm-sys-dshmnvsm-env-dshm
- nvsm-storage-dshm

System health monitor will not be available until firmware update completes.

- For the PSU update, the container implements a protective check which requires the system to be fully redundant (all four supplies are installed and in a healthy state) in order for the update to occur.

  If you are using only three of the four PSUs, the full power redundancy requirement can be overridden with the Docker run environment (`DGX_MAX_PSU`) as follows.

    docker run -e DGX_MAX_PSU=3 --privileged -ti -v /:/hostfs <container_name> update_fw

4.2.1. Known Issues

4.2.1.1. VBIOS Update Status Only Shows One GPU

Issue

On an DGX-1 with Tesla P100, when updating the VBIOS for all the GPUs in the system, the "Firmware Update in Progress" output banner shows only the last GPU to be updated instead of each or all GPUs.

Explanation

The firmware update container does not report which GPU VBIOS is flashed as it occurs, but shows the last GPU to indicate that all GPUs are being updated. In the background, all the GPUs are sequentially flashed with the new VBIOS until the last GPU completes the update successfully.

4.2.1.2. Recovery for PSU Update Failure

Issue

On rare occasions, the recovery mechanism in the container may not be able to recover from a failure in the PSU update process.

Action to Take

If the container does not recover, contact NVIDIA Enterprise Support for assistance.
4.2.1.3. Update May Stop with an Unexpected Error

Issue
When updating the BMC, the update may fail with the following error code.

```
TypeError: __init__() takes exactly 4 arguments
```

Recommendation
Attempt to run the container again for the component that failed. If the component update continues to fail, contact NVIDIA Enterprise Support.

4.2.1.4. Unexpected Error May Occur Upon Exiting the Container

Issue
After successfully completing an update and then exiting the container, the following error message may appear.

```
Method not supported in this mode
```

Details and Recommendation
This can occur if the CPU is under a high load while the container runs. The update is successful and no further action is needed.

To avoid this error, stop all GPU and CPU intensive applications. You can also use the `show_version` option when running the container to confirm the firmware is updated to the correct version.

4.3. Version 20181107

The DGX-1 with Tesla V100 Firmware Update container version 20181107 is available.

- Package name: nvidia-dgx-fw-0102-20181107.tar.gz
- Image name: nvidia-dgx-fw-0102-20181107

Contents of the DGX-1 System Firmware Container

This container includes the firmware binaries and update utilities for the firmware listed in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBIOS</td>
<td>S2W_3A06</td>
</tr>
</tbody>
</table>
### Changes in this Release

- **Container**
  - Removed BMC and PSU firmware updates due to potential issues with the update process.
- **System BIOS**
  - Updated to version S2W_3A06
  - Updated microcode to address Spectre vulnerability.

### 4.3.1. Known Issues

#### 4.3.1.1. Recovery for PSU Update Failure

**Issue**

On rare occasions, the recovery mechanism in the container may not be able to recover from a failure in the PSU update process.

**Action to Take**

If the container does not recover, contact NVIDIA Enterprise Support for assistance.

#### 4.3.1.2. SNMPv3 Traps are not Available for the BMC

**Issue**

The BMC is not capable of sending SNMPv3 traps at this time.

**Workaround**

From the BMC dashboard->SNMP Community Settings, enable traps for SNMPv2.
Chapter 5.  DGX-1 System FW Changes

This chapter contains the list of changes for the following DGX-1 firmware components.

- BMC
- System BIOS

5.1.  DGX-1 BMC Changes

Changes in 3.38.30

- Added security enhancements.

Changes in 3.36.30

- Added HTML5 support for the Remote Console.
- Removed Java-based Remote Console.

Note: Be sure to clear your browser cache to see the new Remote Console.

- Fixed BMC not reporting all temperature sensor readings correctly.
- Fixed potential inability to communicate with BMC after failed BMC update.

Changes in 3.30.30

- Added support for sending SNMPv3 Traps.
- Added GPU Page Retirement tracking.
- Added ability to configure KVM and VMedia via ipmitool.
- Added ability to enabled/disable SNMPv3 via ipmitool. Implemented IPMI command for OEM debugging.
- Fixed BMC/SBIOS providing incorrect mapping for memory DIMM errors.
- Fixed PSU firmware update disruption by implementing mutual exclusion logic in the BMC.
5.2. DGX-1 SBIOS Changes

Changes in S2W_3A10
▶ Incorporated Intel microcode to mitigate new side channel attacks (Zombieland).

Changes in S2W_3A08
▶ Fixed BMC/SBIOS providing incorrect mapping for memory DIMM errors.
▶ USB ports now default to USB 3.0

Changes in S2W_3A06
▶ Updated microcode to address Spectre vulnerability.
Notice

This document is provided for information purposes only and shall not be regarded as a warranty of a certain functionality, condition, or quality of a product. NVIDIA Corporation ("NVIDIA") makes no representations or warranties, expressed or implied, as to the accuracy or completeness of the information contained in this document and assumes no responsibility for any errors contained herein. NVIDIA shall have no liability for the consequences or use of such information or for any infringement of patents or other rights of third parties that may result from its use. This document is not a commitment to develop, release, or deliver any Material (defined below), code, or functionality.

NVIDIA reserves the right to make corrections, modifications, enhancements, improvements, and any other changes to this document, at any time without notice. Customer should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

NVIDIA products are sold subject to the NVIDIA standard terms and conditions of sale supplied at the time of order acknowledgement, unless otherwise agreed in an individual sales agreement signed by authorized representatives of NVIDIA and customer ("Terms of Sale"). NVIDIA hereby expressly objects to applying any customer general terms and conditions with regards to the purchase of the NVIDIA product referenced in this document. No contractual obligations are formed either directly or indirectly by this document.

NVIDIA products are not designed, authorized, or warranted to be suitable for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of the NVIDIA product can reasonably be expected to result in personal injury, death, or property or environmental damage. NVIDIA accepts no liability for inclusion and/or use of NVIDIA products in such equipment or applications and therefore such inclusion and/or use is at customer’s own risk.

NVIDIA reserves the right to make corrections, modifications, enhancements, improvements, and any other changes to this document, at any time without notice. Customer should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

NVIDIA products are sold subject to the NVIDIA standard terms and conditions of sale supplied at the time of order acknowledgement, unless otherwise agreed in an individual sales agreement signed by authorized representatives of NVIDIA and customer ("Terms of Sale"). NVIDIA hereby expressly objects to applying any customer general terms and conditions with regards to the purchase of the NVIDIA product referenced in this document. No contractual obligations are formed either directly or indirectly by this document.

NVIDIA products are not designed, authorized, or warranted to be suitable for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of the NVIDIA product can reasonably be expected to result in personal injury, death, or property or environmental damage. NVIDIA accepts no liability for inclusion and/or use of NVIDIA products in such equipment or applications and therefore such inclusion and/or use is at customer’s own risk.

NVIDIA makes no representation or warranty that products based on this document will be suitable for any specified use. Testing of all parameters of each product is not necessarily performed by NVIDIA. It is customer’s sole responsibility to evaluate and determine the applicability of any information contained in this document, ensure the product is suitable and fit for the application planned by customer, and perform the necessary testing for the application in order to avoid a default of the application or the product. Weaknesses in customer’s product designs may affect the quality and reliability of the NVIDIA product and may result in additional or different conditions and/or requirements beyond those contained in this document. NVIDIA accepts no liability related to any default, damage, costs, or problem which may be based on or attributable to: (i) the use of the NVIDIA product in any manner that is contrary to this document or (ii) customer product designs.

No license, either expressed or implied, is granted under any NVIDIA patent right, copyright, or other NVIDIA intellectual property right under this document. Information published by NVIDIA regarding third-party products or services does not constitute a license from NVIDIA to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property rights of the third party, or a license from NVIDIA under the patents or other intellectual property rights of NVIDIA.

Reproduction of information in this document is permissible only if approved in advance by NVIDIA in writing, reproduced without alteration and in full compliance with all applicable export laws and regulations, and accompanied by all associated conditions, limitations, and notices.

THIS DOCUMENT AND ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, “MATERIALS”) ARE BEING PROVIDED “AS IS.” NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL NVIDIA BE LIABLE FOR ANY DAMAGES, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF ANY USE OF THIS DOCUMENT, EVEN IF NVIDIA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Notwithstanding any damages that customer might incur for any reason whatsoever, NVIDIA’s aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms of Sale for the product.

Trademarks

NVIDIA, the NVIDIA logo, DGX, DGX-1, DGX-2, and DGX Station are trademarks and/or registered trademarks of NVIDIA Corporation in the Unites States and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.

Copyright

© 2020 NVIDIA Corporation. All rights reserved.