In HP desktops and workstations, the DMI information is programmed using the HP Setup utility.

The method for updating the DMI fields depends on the BIOS version number. As the service engineer, you first need to determine which BIOS version the desktop PC is using before attempting to update the DMI information.

After you have determined the BIOS version, you should implement the correct steps to program the DMI information. The following sections list the steps for the Common Core BIOS, BIOS versions 6, and 7 and later.

Note: For BIOS versions 5 and earlier, you need to update the DMI information using the legacy DMI flash utilities.

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HP Desktop DMI Programming Step-by-Step Guide

**HP Common Core BIOS programming steps**

HP Commercial Desktops and workstation with the HP Common Core BIOS use the HP Computer Setup utility to program DMI.

**Desktop and workstation MPM states**

After system board replacement, the board should be in Manufacturer’s Programming Mode (MPM). In this state, the board is unlocked and DMI can be programmed. When the product is in this mode, the Set Machine Unique Data option appears in the HP Setup Utility Main screen, which allows DMI information to be entered directly into the utility:

![Set Machine Unique Data in HP Setup Utility Main screen](image)

**Panic mode**

If the service technician programs DMI information incompletely and the locks MPM, a warning screen displays that shows which DMI fields require programming. Other BIOS features remain unchanged and the system can boot to the OS. An example is shown below:

![Panic mode warning screen](image)

This screen is displayed on very boot cycle until the DMI information is programmed completely. Once every field has been entered, MPM will be automatically locked.
**MPM states**

The system board can be in one of three states relative to DMI programming. Each state is explained here:

<table>
<thead>
<tr>
<th>State:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPM unlocked</td>
<td>This is the state the replacement boards are in. The boards remain in this state for 35 boot cycles, or until they are programmed and locked.</td>
</tr>
<tr>
<td>MPM locked and Panic Mode</td>
<td>If the board is not programmed completely (that is there is missing DMI information) within the 35 boot cycles after the Panic Screen is first shown, the MPM is automatically disabled and the board is locked, but the Panic Screen is still displayed showing which information is not programmed. An SMC key must be obtained to unlock the board and complete programming is auto locking occurs.</td>
</tr>
<tr>
<td>MPM locked</td>
<td>DMI programming is complete on these boards. This is the state of the system board when it is returned to the customer.</td>
</tr>
</tbody>
</table>

**Unlocking the MPM**

If the MPM is locked, you will need to escalate to 2LS and provide the SN and UUID to get an SMC Blob, which will unlock the system. This process is explained in detail in the SMC_Creation_9_2015.pdf included with this training.

**Note:** The process for obtaining the SMC blob and unlocking MPM is the same for commercial desktops, workstations, and notebooks.
Programming Steps

The following are the step-by-step instructions for programming DMI on desktops and workstations that support the HP Common Core BIOS:

**Note**
Completing the DMI programming process allows you to lock the system at the conclusion preventing further programming. To reprogram the system after it’s been locked, a system-specific MPM unlock key must be obtained and used.

1. Start the computer. The computer should be in MPM mode and ready for DMI Programming.

   ![Screen Shot with HP Logo](image)

   **Remember:** If the computer is not in MPM mode, you will be unable to program it and must obtain a SMC.BIN file to unlock the system.
2. Set the System Clock in Windows or a bootable EFI shell. Important! The system clock must be set correctly to generate a valid UUID.

- To set the system clock in Windows, right-click the clock on the bottom right corner of the screen and select **Adjust Date and Time**.

- To set the system clock using an EFI-bootable shell:
  - To make a bootable EFI Shell DOK:
    - On a FAT32-formatted DOK, create a directory called `EFI\boot\`
    - Copy `shellfull.efi` to it. (See [http://tianocore.sourceforge.net/wiki/Efi-shell](http://tianocore.sourceforge.net/wiki/Efi-shell))
    - Rename `shellfull.efi` to `bootx64.efi`.
    - Boot to EFI and select the shell.
    - Use the `date` and `time` commands to set the system clock. There is help at the command line for exact syntax.

3. Start the HP Setup Utility, and then select **Main → Set Machine Unique Data**.
Select each of the DMI fields and enter the appropriate information. Feature Byte (if populated, overwrite with Feature Byte from Label)

**Note:** If the Feature Byte field is already populated, overwrite it with the information found on the label.

4. Program each field:

5. When finished, select **Main → Save Changes and Exit**.

6. Once all the DMI fields have been populated, you will be prompted to confirm the data and lock the MPM. Click **Confirm** to lock the MPM and complete the programming. Click **Cancel** to skip locking the system and boot to the OS.

   **Note:** The confirmation screen is shown on each boot until the system is locked.

7. Press the **Enter** key to exit the BIOS and restart the computer. Confirm that the system is not in MPM mode.

   **Caution!** Customers should receive locked systems only.
Version 7 Programming Process
This is the process for BIOS version 7:

1. Start the computer.

2. Press and hold the F10 key to access the BIOS.

3. In the BIOS, press Ctrl + A to enter ‘configuration mode’. If you do not press Ctrl + A, you will only be able to view the DMI fields, and you will not be able to edit them.

4. Select Security → System IDs.

5. Select each of the DMI fields and enter the appropriate information.

6. Press the F10 key to accept the changes.

7. Select File → Save Changes and Exit.
8. Press the **Enter** key to exit the BIOS and restart the computer.

### Version 6 Programming Process

This is the process for BIOS version 6:

<table>
<thead>
<tr>
<th>Version 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Start the computer.</td>
</tr>
<tr>
<td>2. Press and hold <code>Ctrl + F10</code> to access the BIOS in 'configuration mode'. If you do <strong>not</strong> hold the <code>Ctrl</code> key, you will only be able to view the DMI fields, and you will <strong>not</strong> be able to edit them.</td>
</tr>
<tr>
<td>3. On the Main screen, click <strong>System IDs</strong>.</td>
</tr>
<tr>
<td>4. Select each of the DMI fields and enter the appropriate information.</td>
</tr>
</tbody>
</table>
5. Press the **F10** key to accept the changes.

6. Select **Exit → Exit Saving Changes**.

7. Press the **Enter** key to exit the BIOS and restart the computer.