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GENESYS™

Factory Image Restoration Procedures 04

Technical Reference

Abstract

This document describes the procedures required to restore the factory image (operating system and/or any PureConnect software) using the Interaction Recovery Environment from a USB flash drive embedded inside the system. DC-900-4.0-RESTPROC-04

For the latest version of this document, see the PureConnect Documentation Library at: http://help.genesys.com/cic.

For copyright and trademark information, see https://help.genesys.com/cic/desktop/copyright_and_trademark_information.htm.

Table of Contents

Introduction to Factory Image Restoration Procedures

The *Factory Image Restoration Procedures Technical Reference* describes how to restore packaged server devices to factory default settings using Interaction Recovery software stored on a USB drive embedded in the server case. This internal USB flash drive replaces System Recovery discs previously distributed for this purpose. Bundling USB media inside the system ensures that the software is always available, should the system need to be recovered.

Several situations may impact the need to restore factory defaults. For example, you might want to start with a clean software configuration before repurposing or extensively overhauling the configuration of a server. Or, recovery may be necessary due to replacement of hard drives, or recommended by a support associate.

If possible, back up your license files before recovering the server. You may also want to make copies of logs and recordings before recovering, if those are pertinent to a support case.

Packaged servers available for factory image restoration

The Factory Image Restoration procedures outlined in this document are available for the following packaged servers.

Packaged server	Part number
Interaction Application Server 360 Medium Gen9	TH-900-4.0-HPIAS3609M
Interaction Application Server 360 Large Gen9	TH-900-4.0-HPIAS3609L
Interaction Application Server 380 Gen9	TH-900-4.0-HPIAS3809
Interaction Media Server Small Appliance Gen9	SY-014-4.0-MSAS9-3NBD
Interaction Media Server Medium Appliance Gen9	SY-014-4.0-MSAM9
Interaction Media Server Large Appliance Gen9	SY-014-4.0-MSAL9

Other resources

For more information about Factory Image Restoration Procedures and related packaged servers, see the following documents and website pages.

PureConnect Documentation Library

For more information about Factory Image Restoration Procedures and related packaged server installation and configuration guides, see Packaged Hardware Documents in the PureConnect Documentation Library.

Genesys Testlab site

The Genesys Testlab site is a resource for tracking the latest hardware and software components that Genesys tested, approved, and recommended for use with PureConnect products.

Recovery Tasks

All recovery tasks apply to **Gen9 platforms** only. To obtain hardware specifications for your packaged server, contact HardwareQuotes@genesys.com.

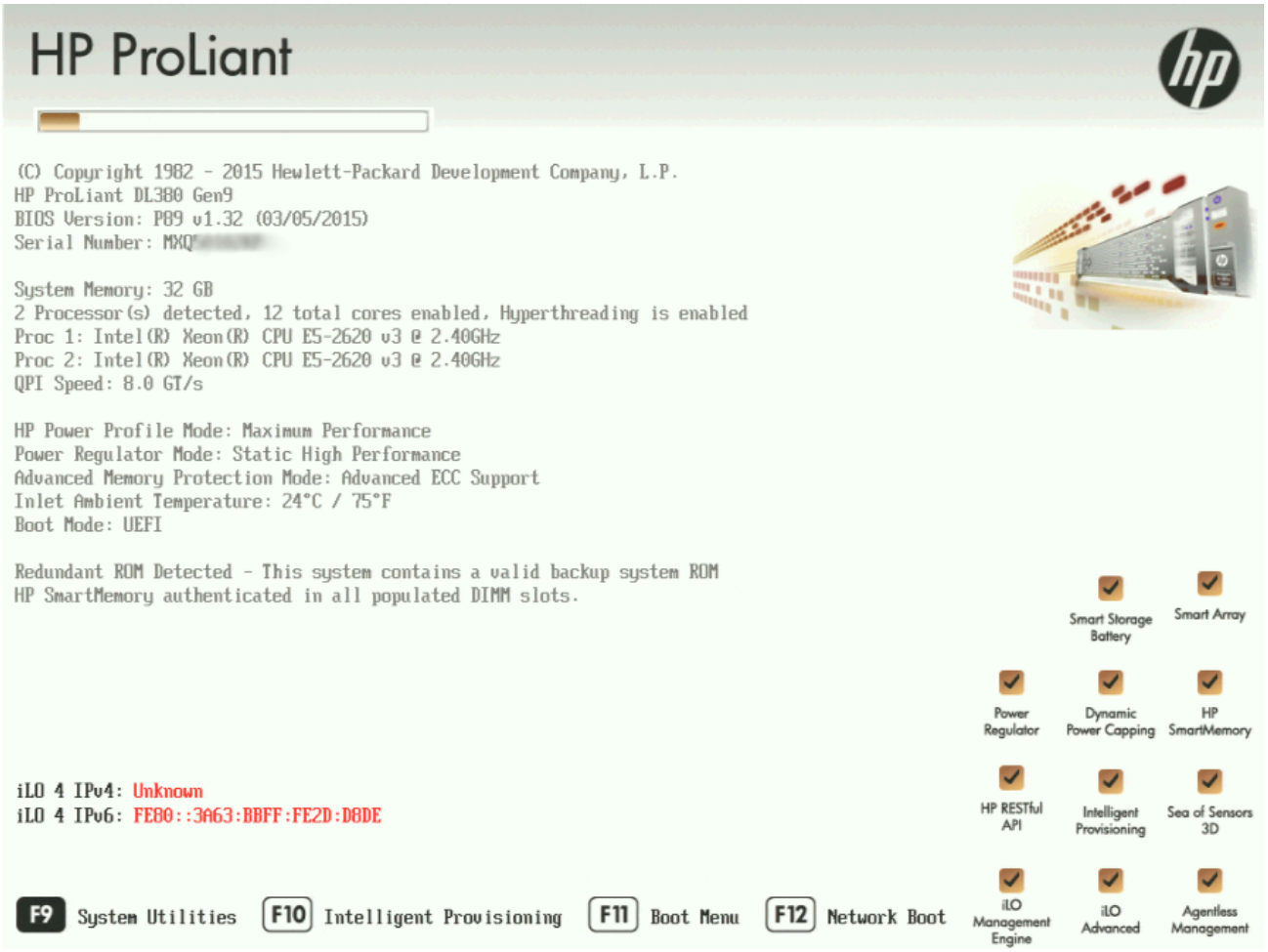
Recovering factory default settings involves three tasks:

1. Verify that the device's RAID configuration matches the factory settings, especially if drives were replaced.
2. If necessary, delete and redefine the disk array configuration.
3. Run the Interaction Recovery utility to restore factory defaults.

Verify RAID Configuration

Before you reimage a server, ensure the server's RAID configuration matches the default configuration required to restore factory settings.

1. Start the device. The HP ProLiant Power-On Self-Test (POST) begins.
2. When prompted, press **F9** to enter the **System Utilities**.



3. When the **System Utilities** menu appears, select **System Configuration** (see Appendix A, Figure 1).
4. On the **System Configuration** menu, select the appropriate disk controller:
   - For the 60 Gen9, select Smart Array P440 Controller
   - For the 360 Gen9, select Smart Array P440ar Controller
   - For the 380 Gen9, select Smart Array P440 Controller
5. Select **Exit and launch HP Smart Storage Administrator (HPSSA).**
6. Select **HP Smart Storage Administrator** (see Appendix A, Figure 2)
7. After the HP Smart Storage Administrator loads, click the appropriate array controller in the left pane (see Appendix A, Figure 3):
   - For the 60 Gen9, select **Smart Array P440**

- For the 360 Gen9, select **Smart Array P440ar**
- For the 380 Gen9, select **Smart Array P440**

8. Under **Actions**, select **Configure**.
9. In the left pane, under **Controller Devices** click **Arrays**. (see Appendix A, Figure 4)
10. Verify that the RAID configuration matches the settings required for the device, according to your server's configuration requirements listed in the following table.

<table>
<tr><th>Device Type</th><th colspan="2">RAID Configuration Requirements</th></tr>
<tr><td rowspan="5">Interaction Application Server</td><td colspan="2">Based on your server model, verify the existence of the logical drive on the device. If the required logical drive exists, and the status is OK, no further configuration is needed. Proceed to Restore Factory Defaults.
If the required logical drive configuration does not exist, or the status is not OK, you must delete the current array configuration and recreate it. Proceed to Delete and redefine array configuration.</td></tr>
<tr><td>Model</td><td>RAID Configuration</td></tr>
<tr><td>360 Gen9 Medium</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>360 Gen9 Large</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>380 Gen9</td><td>Single RAID 1+0 logical drive, consisting of 8 HDDs</td></tr>
<tr><td rowspan="5">Interaction Media Server™</td><td colspan="2">Based on your server model, verify the existence of the logical drive on the device. If the required logical drive exists, and the status is OK, no further configuration is needed. Proceed to Restore Factory Defaults.
If the required logical drive configuration does not exist, or the status is not OK, you must delete the current array configuration and recreate it. Proceed to Delete and redefine array configuration.</td></tr>
<tr><td>Model</td><td>RAID Configuration</td></tr>
<tr><td>60 Gen9 Small</td><td>60 Gen9 Small: Single RAID 1 logical drive, consisting of 2 HDDs</td></tr>
<tr><td>360 Gen9 Medium</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>360 Gen9 Large</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
</table>

Delete and Redefine Array Configuration

You can delete and redefine an existing RAID when its configuration is invalid or does not match required settings.

Delete the drive arrays

1. Open the **HP Smart Storage Administrator** and select the appropriate array controller.
2. Under **Actions**, select **Clear Configuration**.
3. Review the warning and select **Clear** to confirm.

> **Note**: Once you confirm the clear operation, all data will be removed from the logical drive. No data can be recovered after this operation.

4. When the controller configuration clears, click **Finish**.
5. Repeat the procedure to delete all drive arrays.

Redefine the arrays

When all arrays have been deleted, you can redefine them:

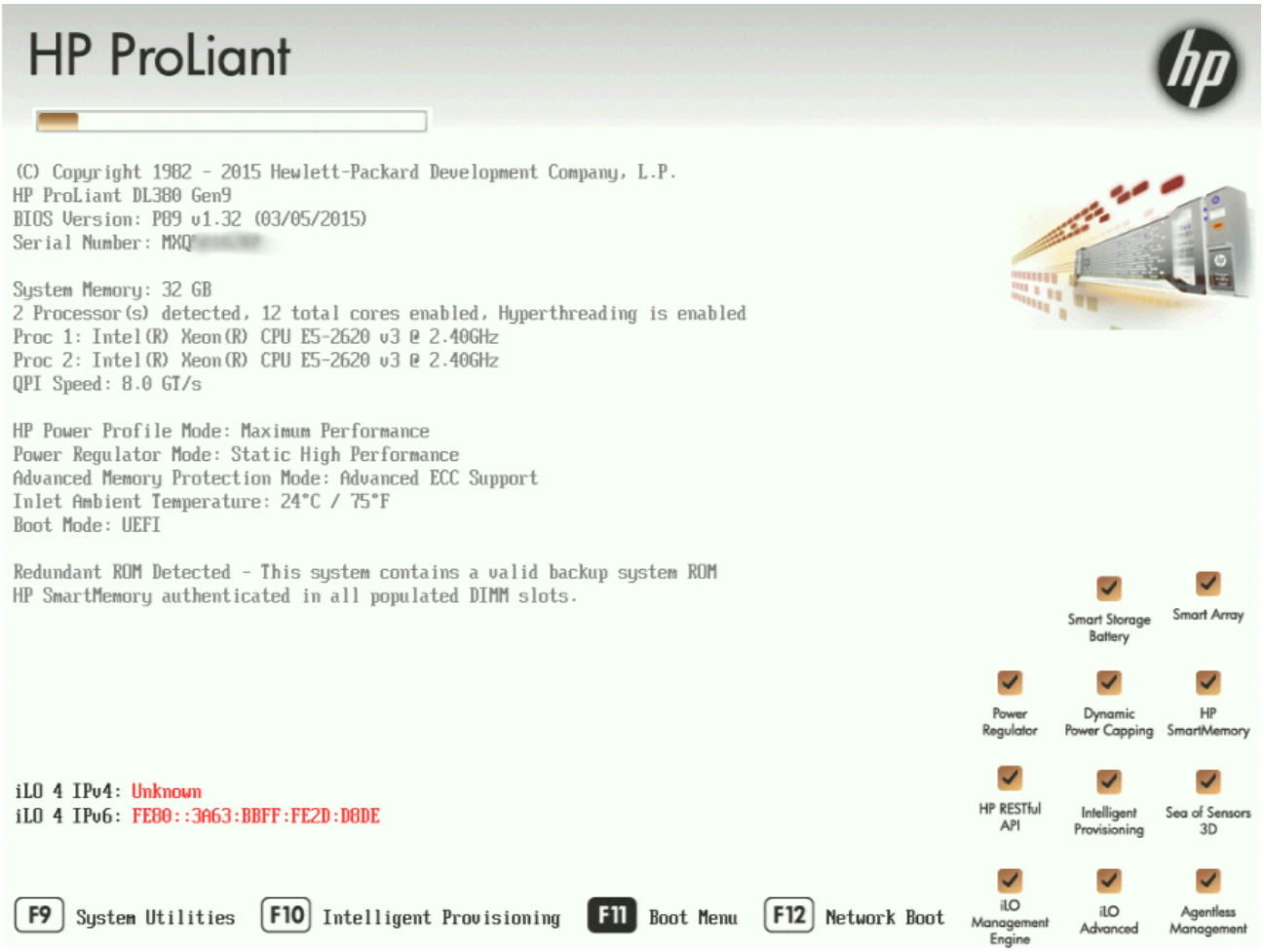
1. Under **Actions** select **Create Array**.
2. Follow the steps in the table below, using the configuration requirements for your particular server, to recreate the array configuration required by the device.

<table>
<tr><th>Device Type</th><th colspan="2">RAID Configuration Steps</th></tr>
<tr><td rowspan="5">Interaction Application Server</td><td colspan="2">Recreate logical drives to match the RAID configuration for the model you are using:</td></tr>
<tr><td>Model</td><td>RAID Configuration</td></tr>
<tr><td>360 Gen9 Medium</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>360 Gen9 Large</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>380 Gen9</td><td>Single RAID 1+0 logical drive, consisting of 8 HDDs</td></tr>
<tr><td colspan="2">Create the required Logical Drive Array by selecting its physical drives.
Click Create Array (see Appendix A, Figure 5).
Under RAID Level select RAID 1+0.
Under Size select Maximum Size. Leave remaining settings at default.
Click Create Logical Drive (see Appendix A, Figure 6).
Click Finish once the logical drive has been successfully created.
When you are finished, the configuration should match the RAID Configuration for the model you have.</td></tr>
<tr><td rowspan="5">Interaction Media Server™</td><td colspan="2">Recreate logical drives to match the RAID configuration for the model you are using:</td></tr>
<tr><td>Model</td><td>RAID Configuration</td></tr>
<tr><td>60 Gen9 Small</td><td>Single RAID 1 logical drive, consisting of 2 HDDs</td></tr>
<tr><td>360 Gen9 Medium</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td>360 Gen9 Large</td><td>Single RAID 1+0 logical drive, consisting of 4 HDDs</td></tr>
<tr><td colspan="2">Create the required Logical Drive Array by selecting its physical drives.
Click Create Array (see Appendix A, Figure 5).
Under RAID Level, select RAID 1+0 (Gen 360,380) or RAID 1 (Gen 60).
Under Size select Maximum Size. Leave remaining settings at default.
Click Create Logical Drive (see Appendix A, Figure 6).
Click Finish once the logical drive has been successfully created.
When you are finished, the configuration should match the RAID Configuration for the model you have.</td></tr>
</table>

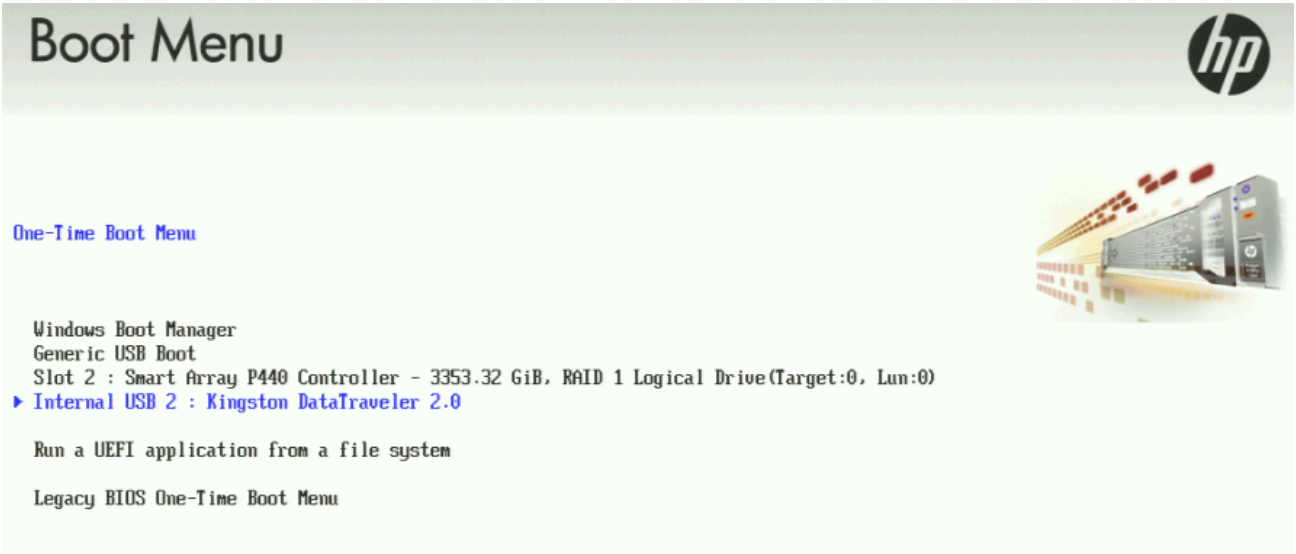
Restore Factory Defaults

If you properly configured the RAID, you can restore the device to factory settings. The reimaging software resides on an internal USB flash drive. To access the internal drive, modify the BIOS start sequence to start from the USB drive instead of RAID, or do a one-time startup override described in the following steps.

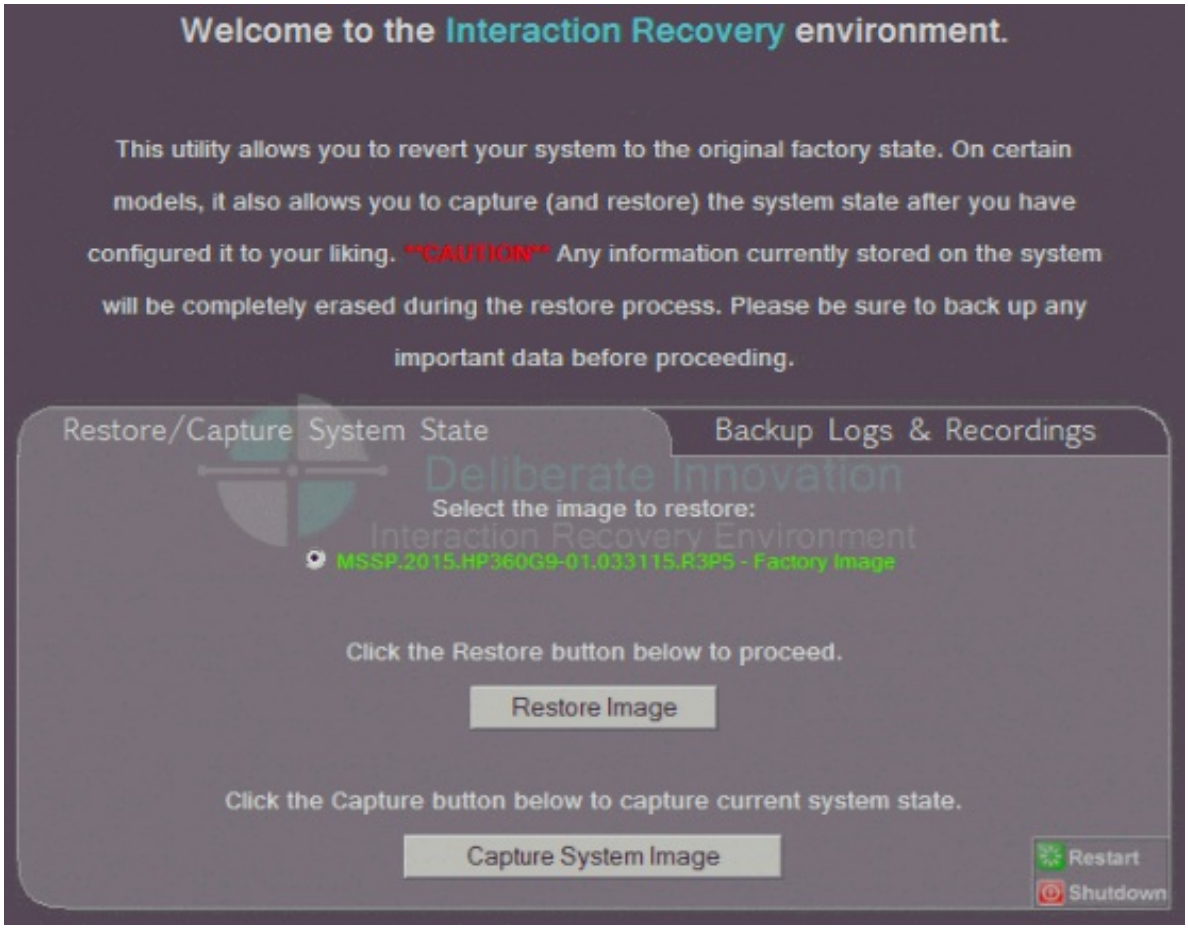
1. Restart your computer. The HP ProLiant Power-On Self-Test (POST) runs.
2. Press **F11** to enter the **Boot Menu**.



3. Select **Internal USB** and press **Enter**.



4. Wait for the system to start. When the system completes the process, the **Welcome to the Interaction Recovery Environment** screen appears.



5. Ensure that the **Factory Image** is selected and then click **Restore Image**. The system requests confirmation of the recovery operation.
6. Click **Confirm** to proceed.
7. Wait while the device is reset to factory defaults. This can take several minutes. The process is complete when **Factory reversion complete** appears.
8. Click **Restart** in the lower right corner of the page.
9. Select **Yes** to confirm that you want to restart.

Capture and Restore a Configured State

Depending on your server model, you can capture and restore a system state after you have a working configuration in place. Use the **Capture System Image** feature to create an image of the current system state, excluding recordings and logs, and save it on the internal USB flash drive. Genesys recommends that you capture a system image immediately after you have a working configuration in place.

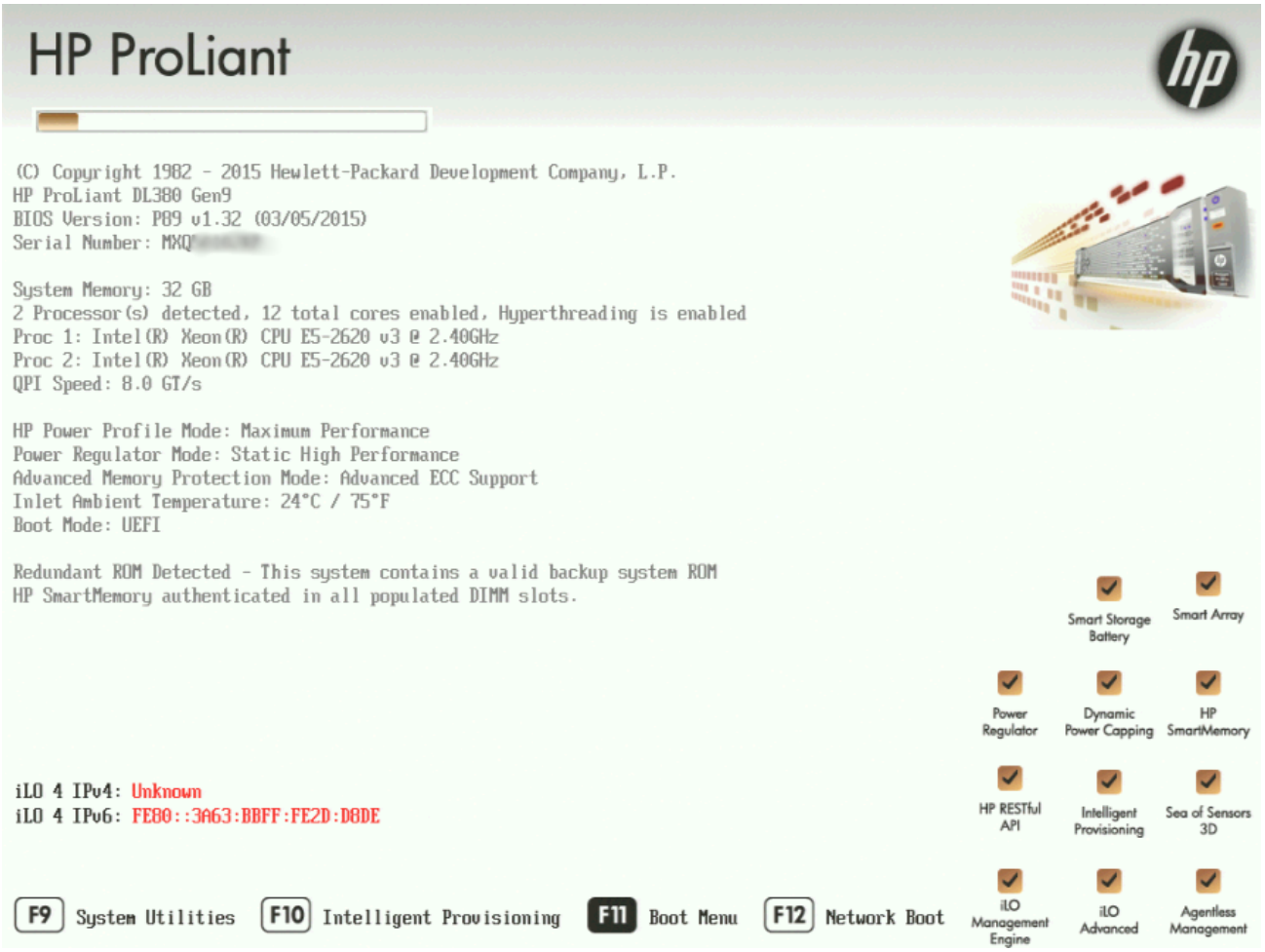
Capture the Current System State

Interaction Media Server only: The capture process does NOT save recordings and logs; therefore, Genesys strongly recommends that you back up your recordings and logs before you capture a system image.

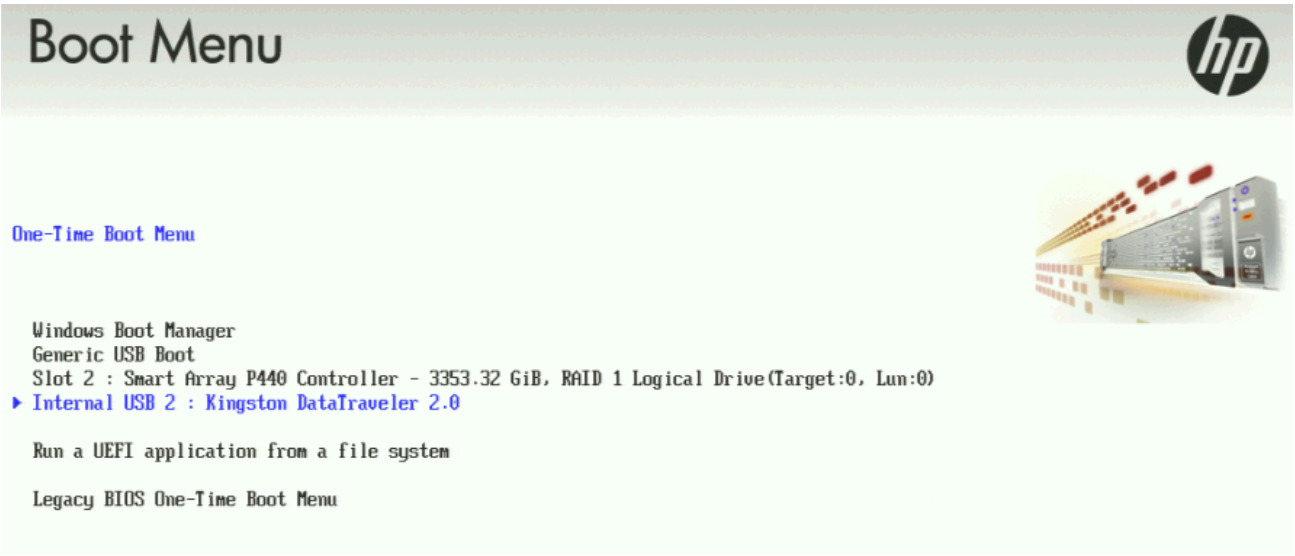
Interaction Application Server only: The capture process saves the OS partition ONLY; therefore, Genesys strongly recommends that you backup any data which might be needed after restoring this user-configured image in the future.

> **Note**: The capture process saves only ONE system state capture. Capturing the current system state will overwrite any previous system state captures.

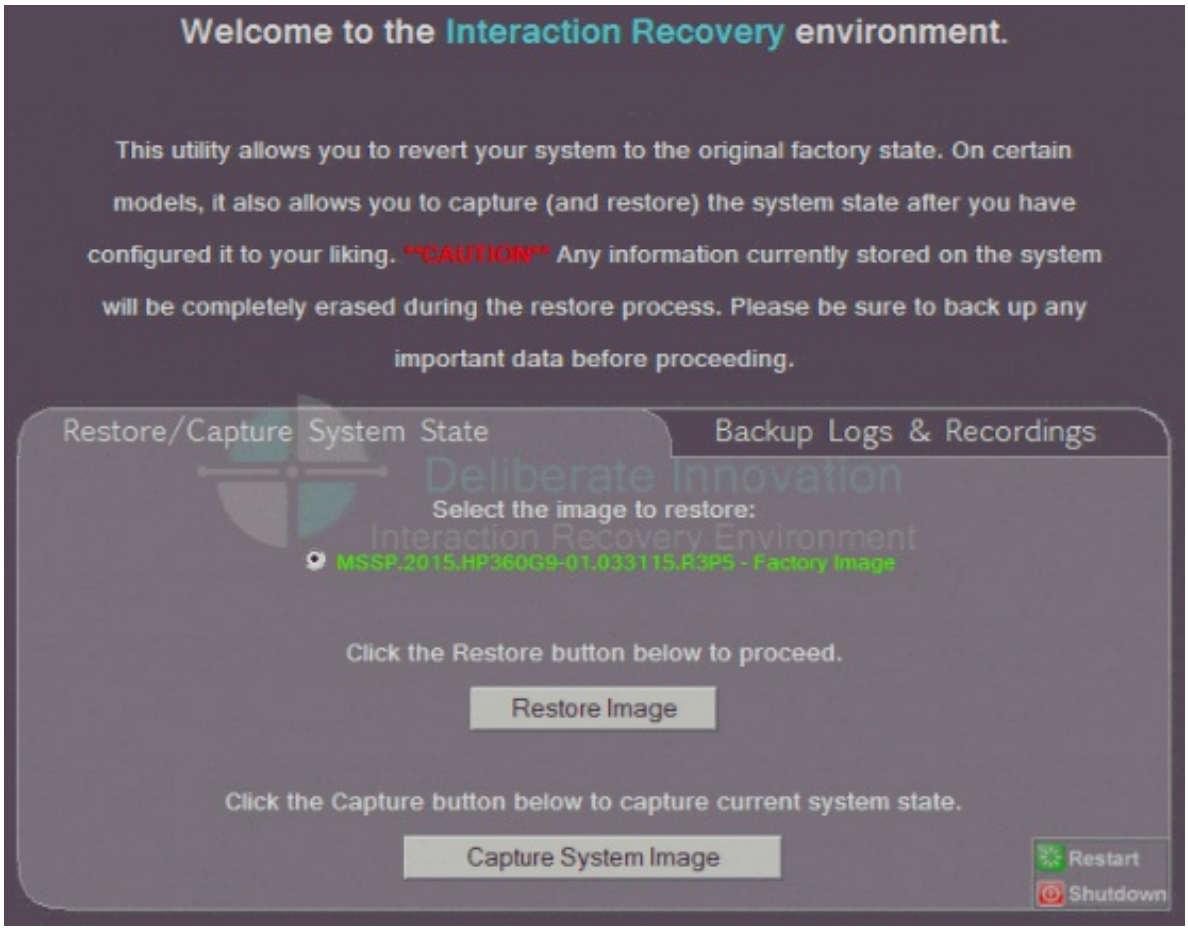
1. Restart the computer. The HP ProLiant Power-On Self-Test (POST) runs.
2. Press **F11** to enter the **Boot Menu**.



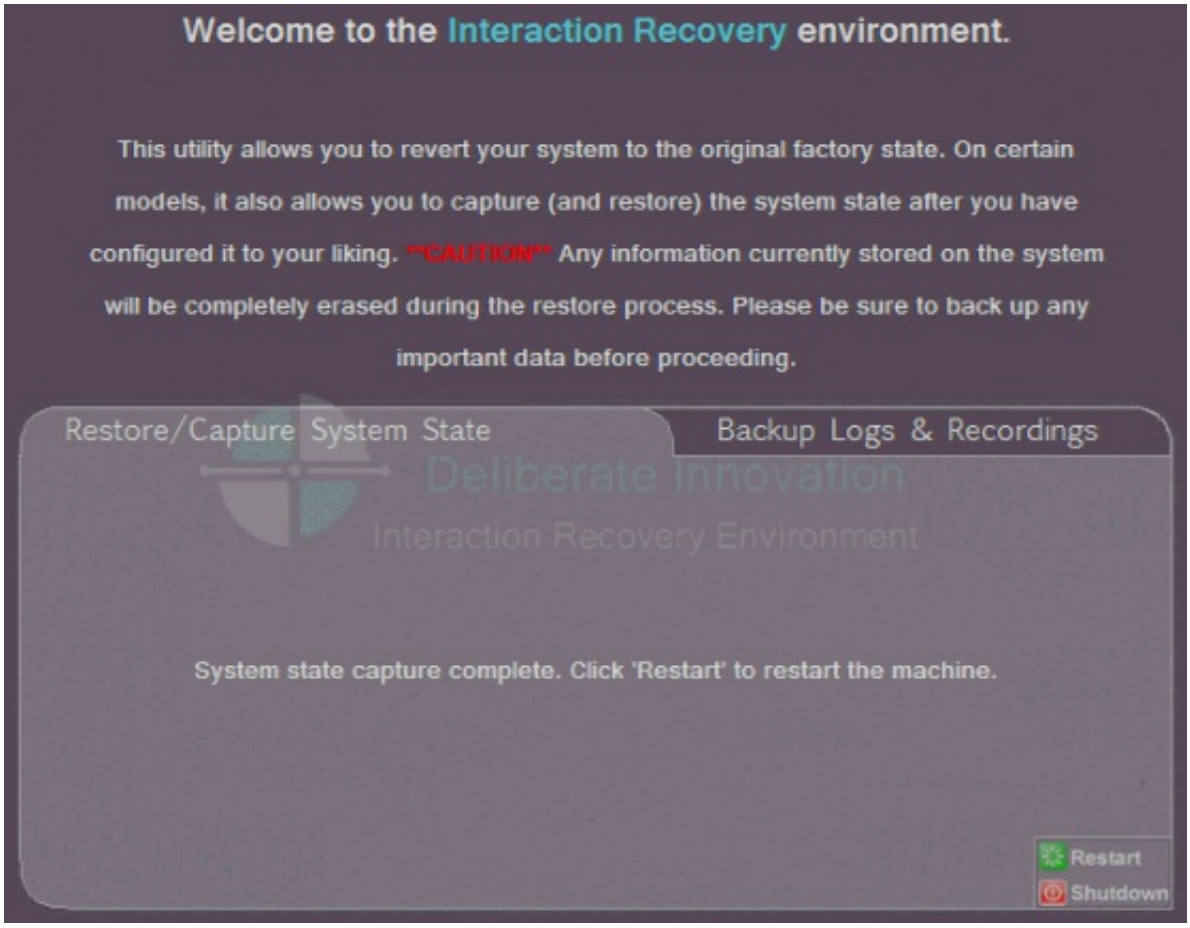
3. Select **Internal USB** and press **Enter**.



4. Wait for the system to start. When the system completes the process, the **Welcome to the Interaction Recovery Environment** screen appears.
5. Select one of the following actions based on the type of packaged server you have:
   - **Interaction Media Server only:** The capture process does NOT save recordings and logs; therefore, Genesys strongly recommends that you back up your recordings and logs before you capture a system image.
   - **Interaction Application Server only:** The capture process saves the OS partition ONLY; therefore, Genesys strongly recommends that you back up any data which might be needed after restoring this user-configured image in the future.



6. Click **Capture System Image** and follow the prompts on the screen to save the current configuration. The system requests confirmation of the system image capture operation.
7. Click **Confirm** to proceed.
8. Wait while the current system state is captured. This may take several minutes.

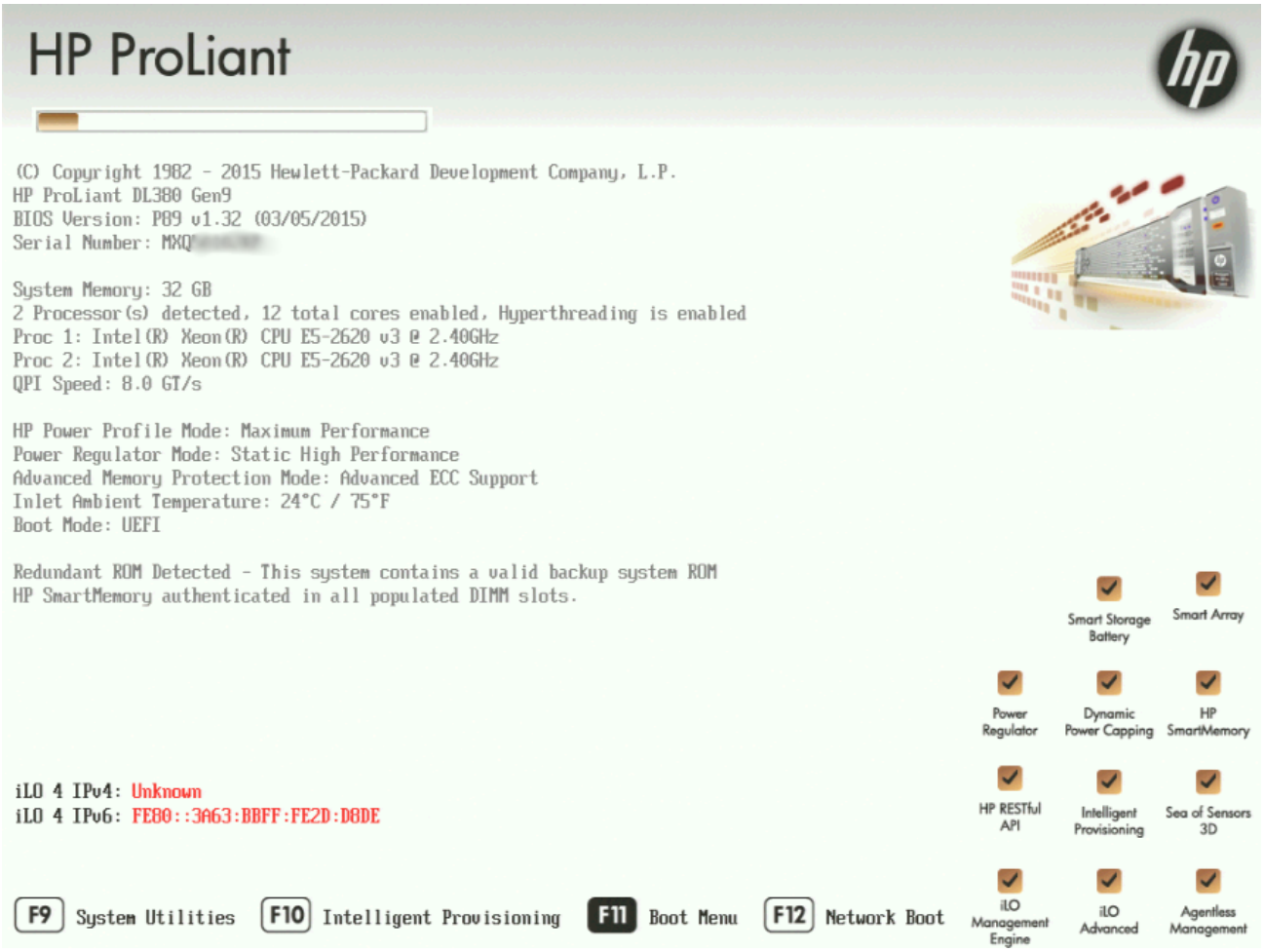


9. When the **System state capture complete** message appears, click **Restart** to restart your computer and complete the process.
10. Select **Yes** to confirm that you want to restart.

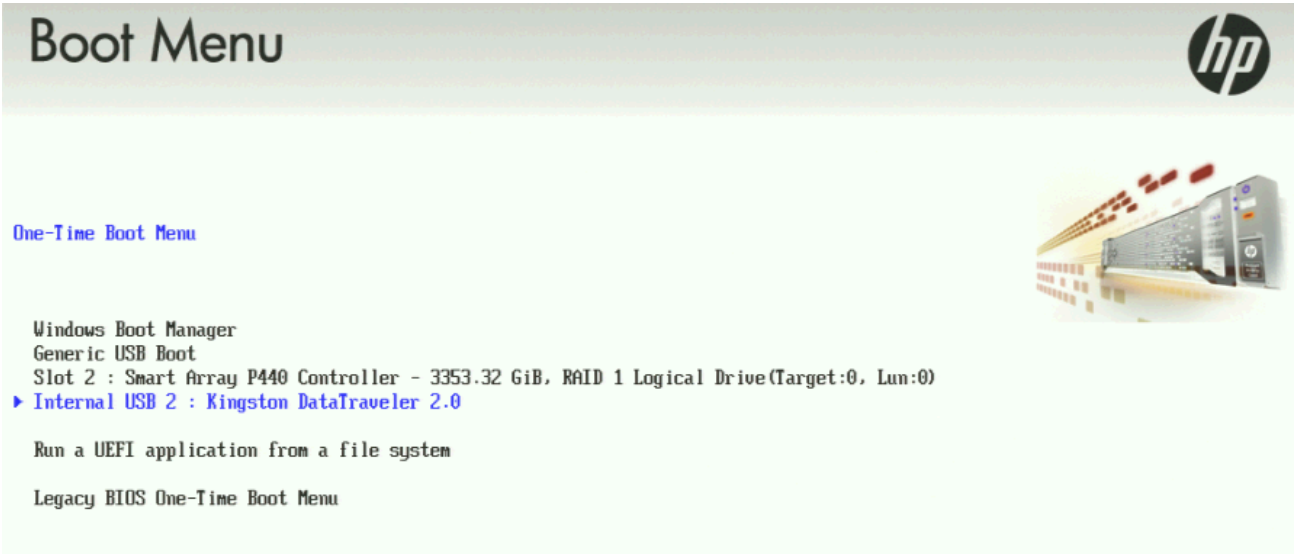
Restore a Captured System State

Note: The restore process deletes ALL information on the server currently. Therefore, Genesys strongly recommends that you back up recordings, logs, and other critical files before you restore a system image.

1. Restart your computer. The HP ProLiant Power-On Self-Test (POST) runs.
2. Press **F11** to enter the **Boot Menu**.

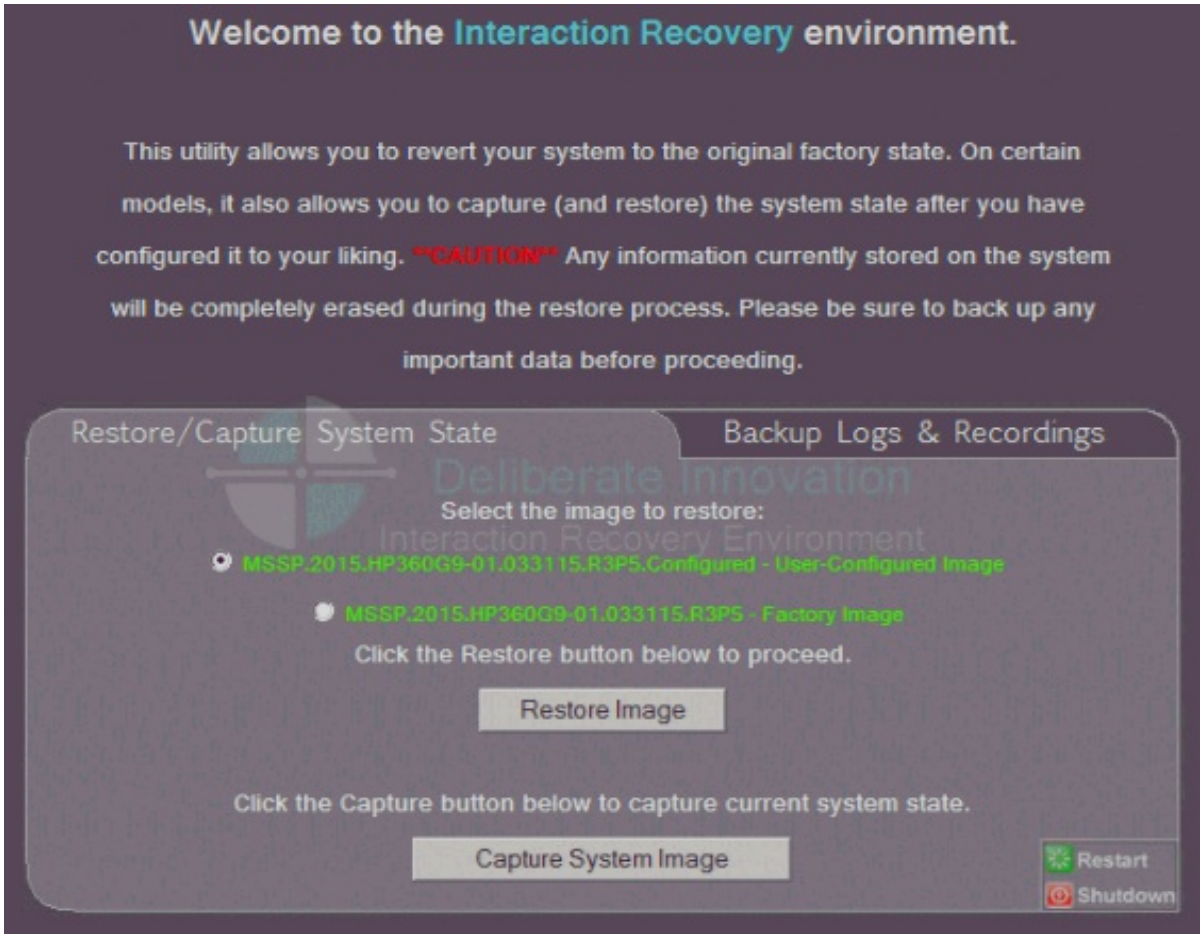


3. Select **Internal USB** and press **Enter**.

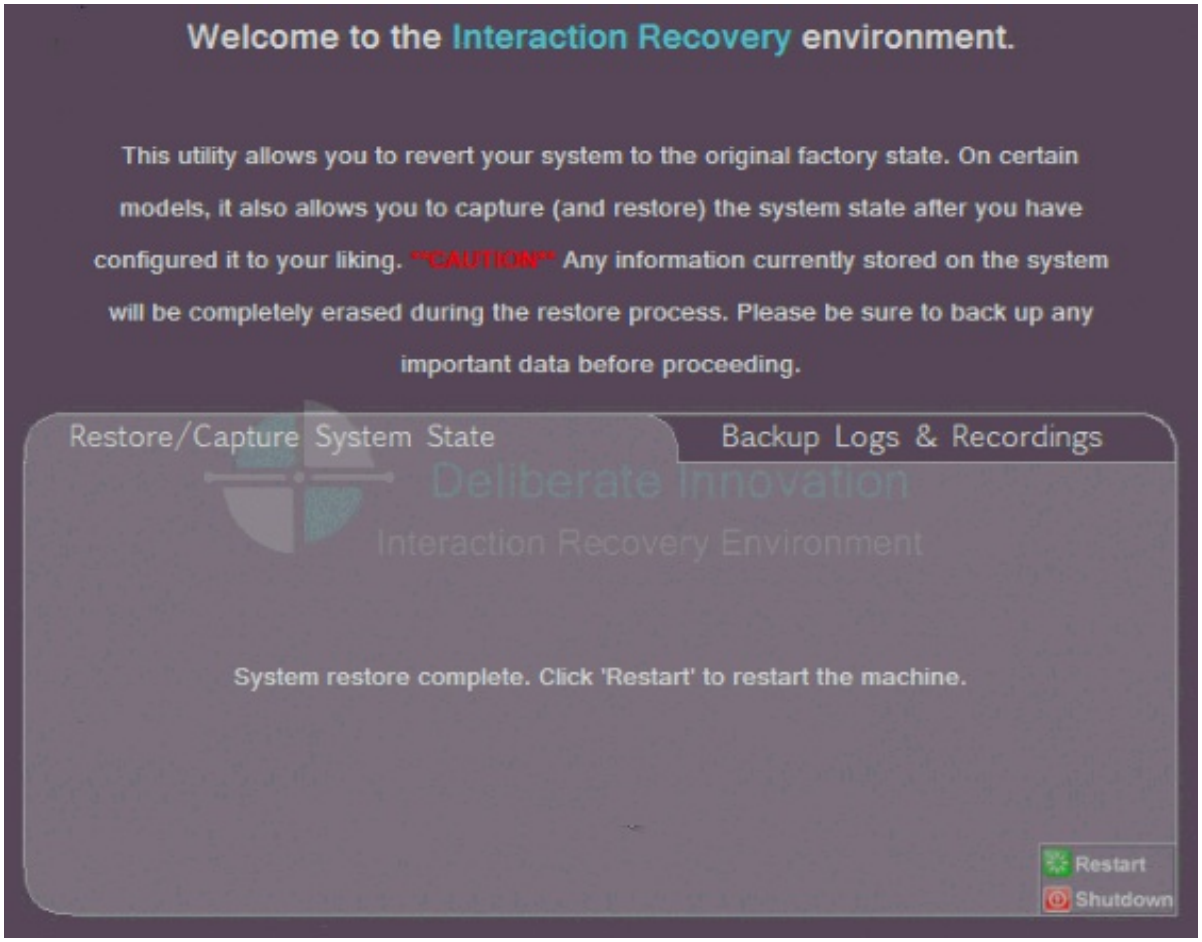


4. Wait for the system to start. When the system completes the process, the **Welcome to the Interaction Recovery Environment** screen appears.

> **Note**: The restore process erases **ALL** information currently stored on the server; therefore Genesys strongly recommends that you back up recordings, logs, and other critical files before you restore a system image, if possible.



5. In the **Select the image to restore** area, select the **User Configured Image** to which you want to restore the computer and then click **Restore Image**. The system requests confirmation of the image restore operation.
6. Click **Confirm** to proceed.
7. Wait while the user configured image restores, which can take several minutes.
8. When the **System restore complete** message appears, click **Restart** to restart your computer and complete the process.

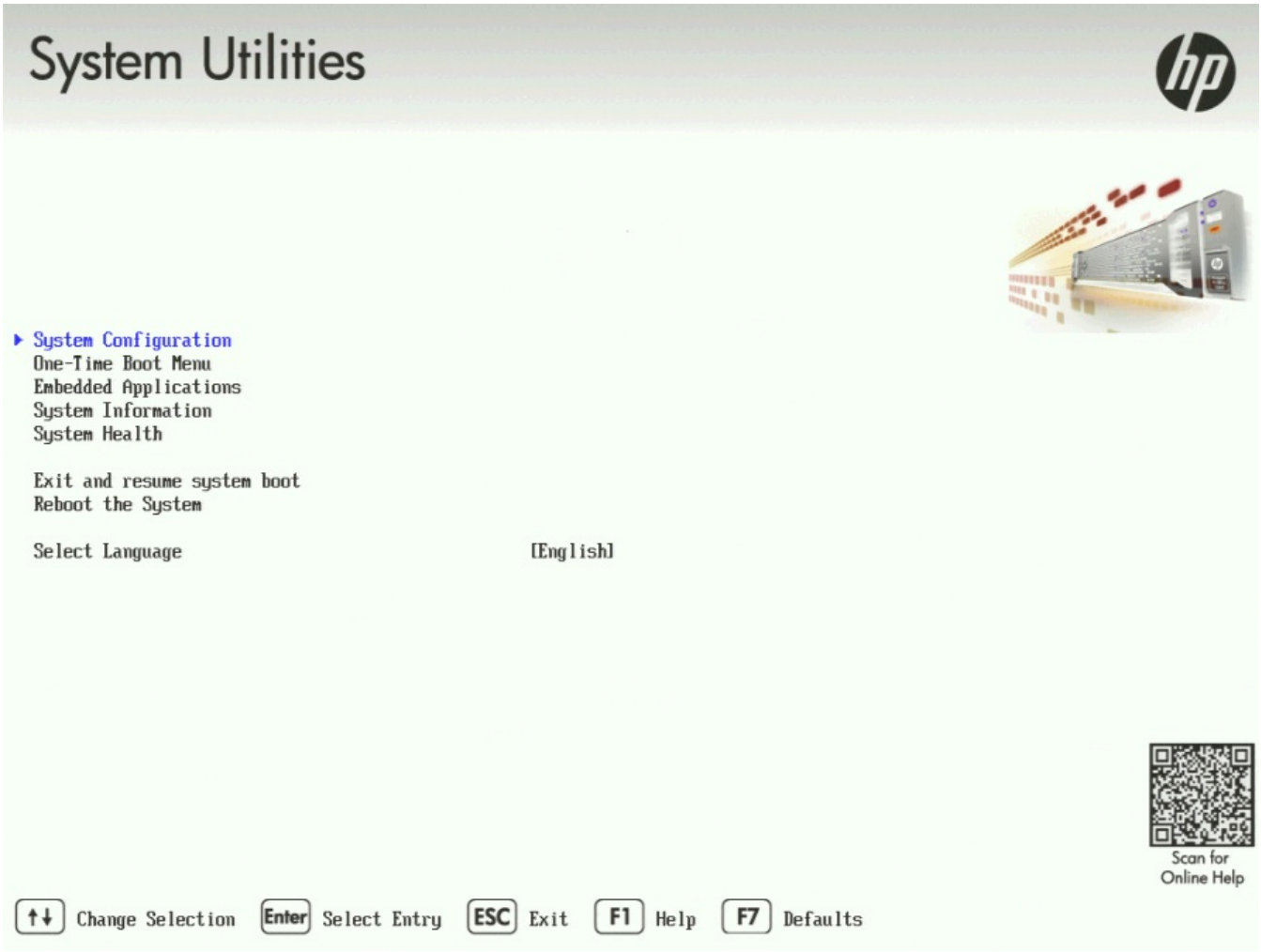


9. Select **Yes** to confirm that you want to restart.

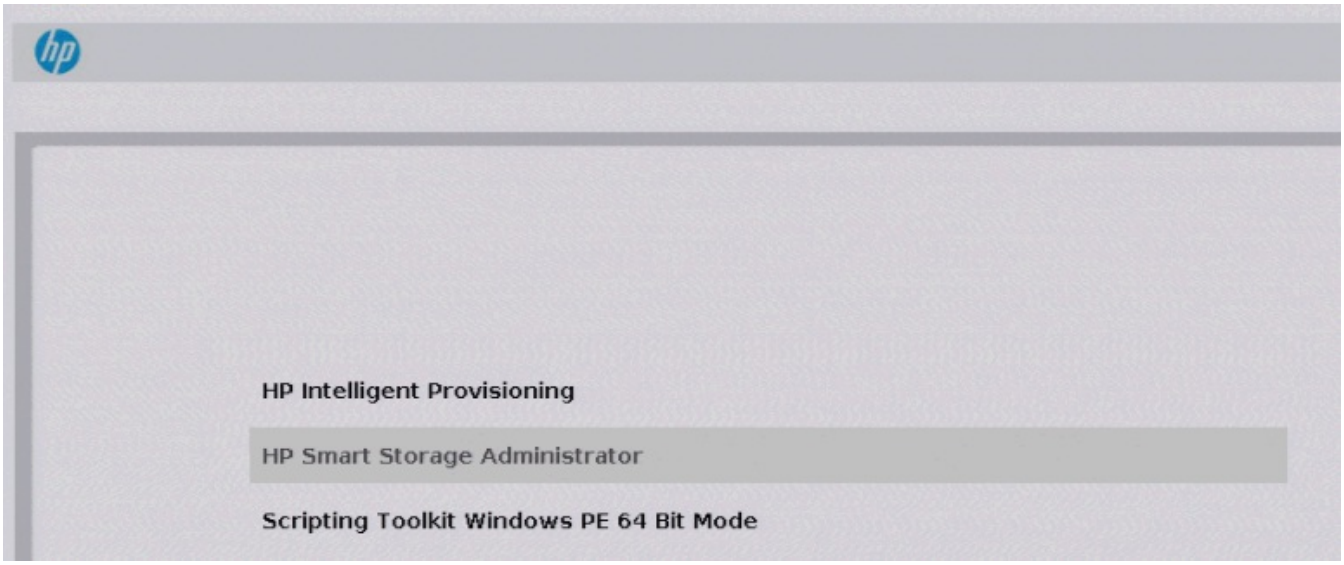
Appendix A: Examples

This appendix provides examples from various steps in the recovery process.

System Utilities Menu

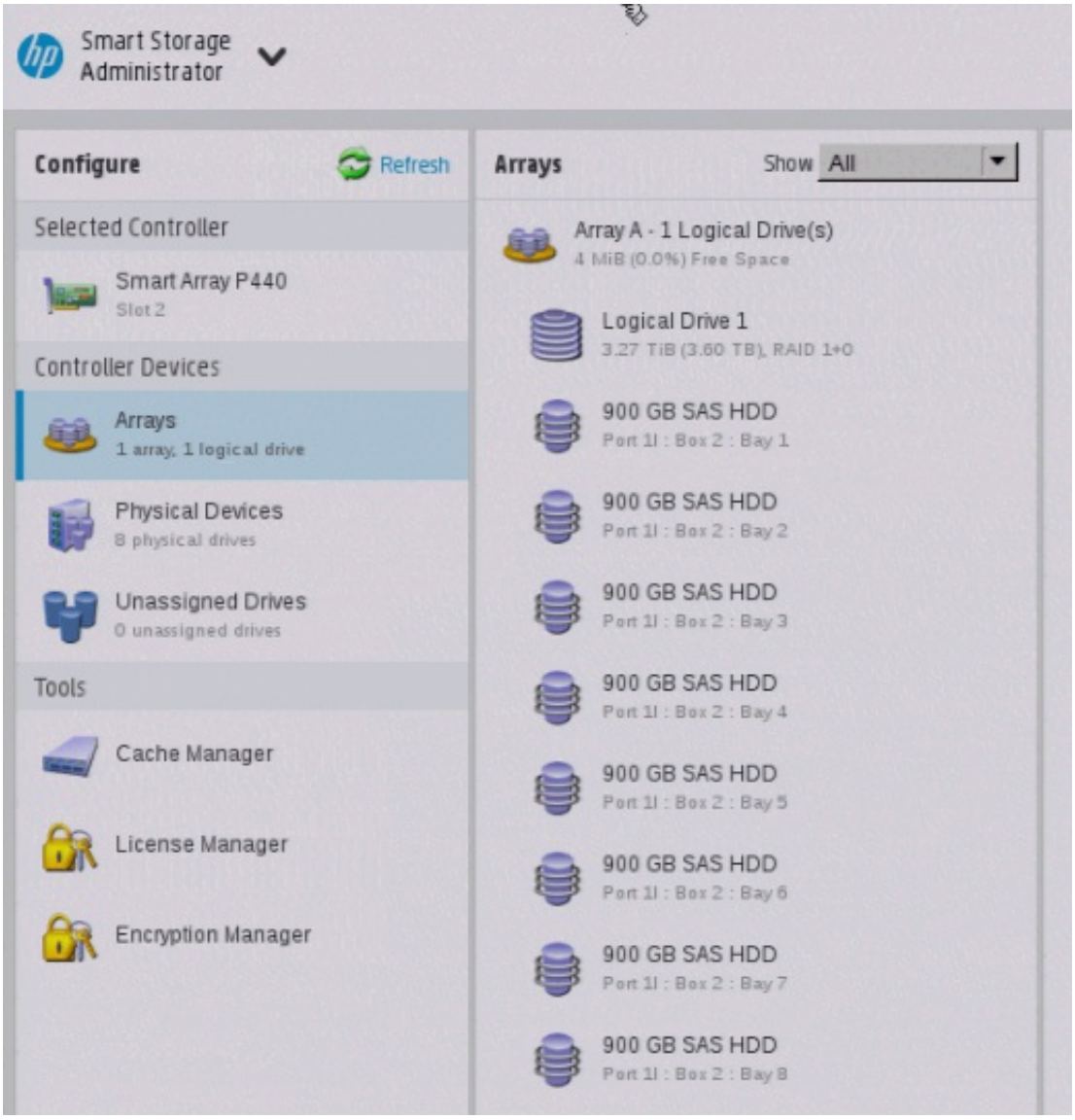


Select HP Smart Storage Administrator

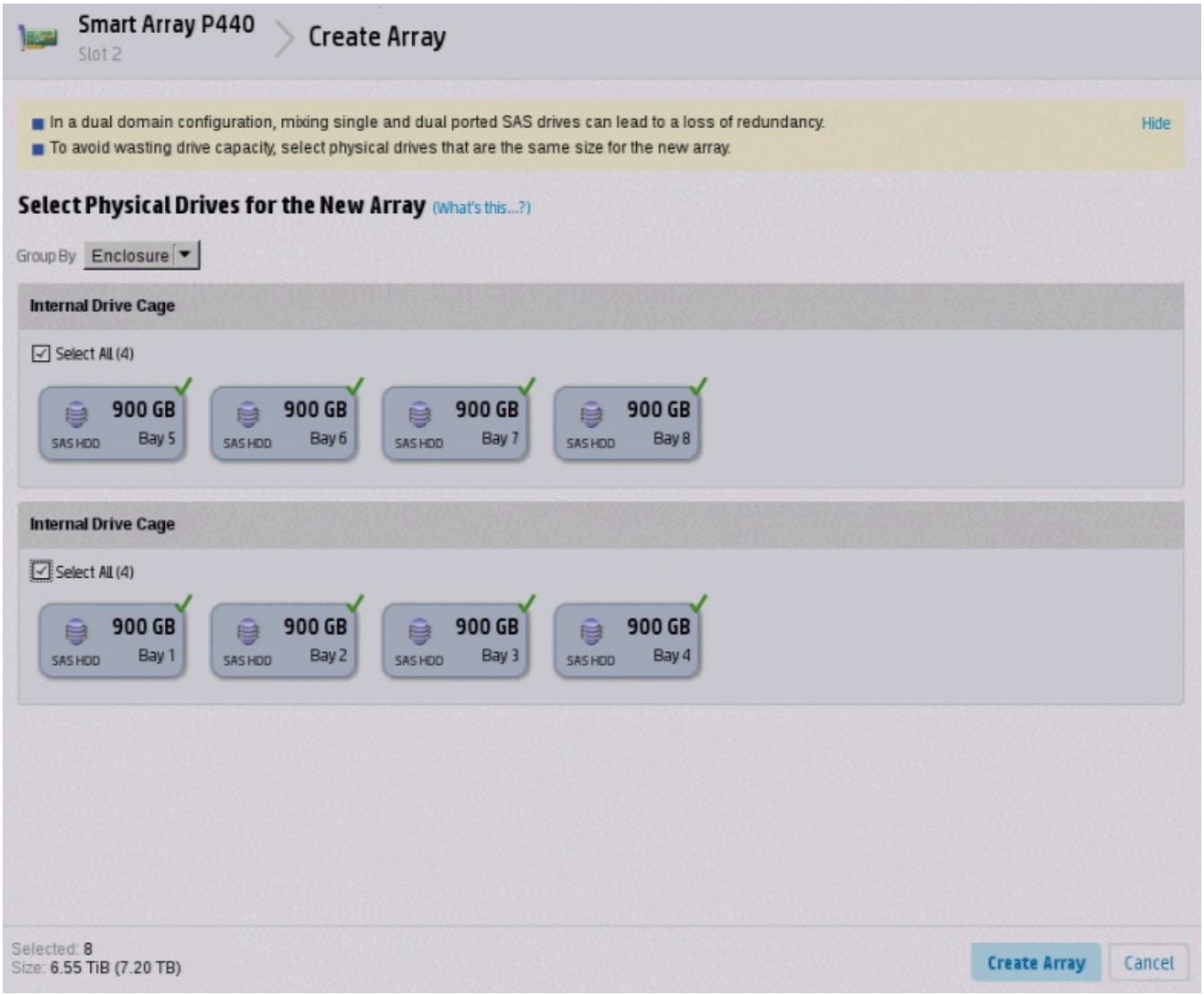


Select Smart Array Controller

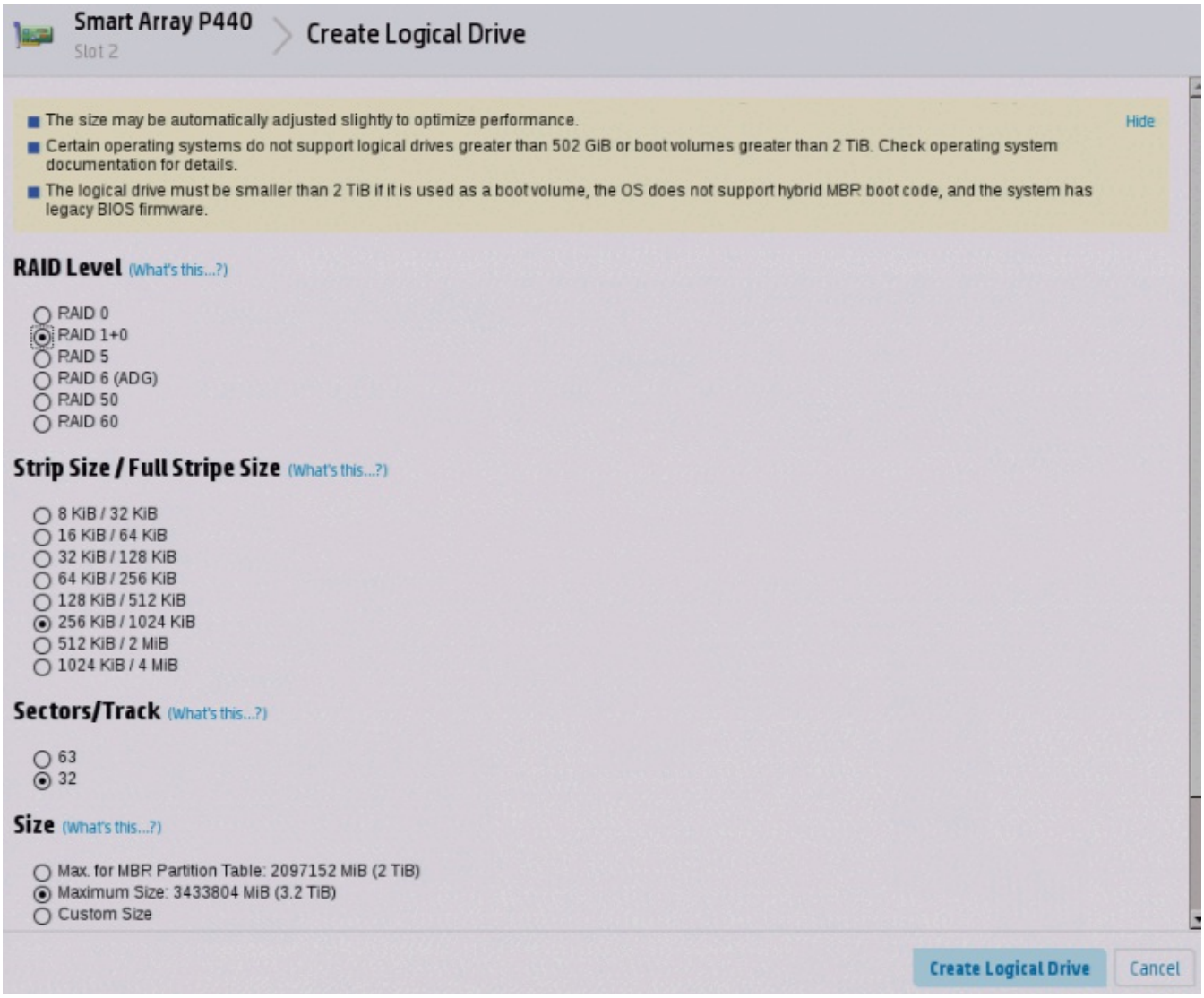
Verify RAID Configuration



Select Physical Drives for the New Array



Create Logical Drive


Smart Array P440
Slot 2
Create Logical Drive
The size may be automatically adjusted slightly to optimize performance.
Hide
Certain operating systems do not support logical drives greater than 502 GiB or boot volumes greater than 2 TiB. Check operating system documentation for details.
The logical drive must be smaller than 2 TiB if it is used as a boot volume, the OS does not support hybrid MBR boot code, and the system has legacy BIOS firmware.
RAID Level (What's this...?)
RAID 0
RAID 1+0
RAID 5
RAID 6 (ADG)
RAID 50
RAID 60
Strip Size / Full Stripe Size (What's this...?)
8 KiB / 32 KiB
16 KiB / 64 KiB
32 KiB / 128 KiB
64 KiB / 256 KiB
128 KiB / 512 KiB
256 KiB / 1024 KiB
512 KiB / 2 MiB
1024 KiB / 4 MiB
Sectors/Track (What's this...?)
63
32
Size (What's this...?)
Max. for MBR Partition Table: 2097152 MiB (2 TiB)
Maximum Size: 3433804 MiB (3.2 TiB)
Custom Size
Create Logical Drive
Cancel

Appendix B: Interaction Recovery Messages

Interaction Recovery displays messages to indicate success or an error condition. The color of the message is significant:

- White text indicates success.
- Red text denotes an error.

Successful restore or capture messages

The successful restore or capture messages include:

- Factory reversion complete. Click 'Restart' to restart the computer.
- System restore complete. Click 'Restart' to restart the computer.
- System state capture complete. Click 'Restart' to restart the computer.

Note: These messages indicate that Interaction Recovery restore/capture process ran successfully. When POST resumes, verify that the System BIOS boot sequence is set to the RAID HDD to prevent it from rebooting from the flash drive.

Unsuccessful restore or capture messages

If the restore or capture process was unsuccessful, the message, **There was an error while trying to restore the factory image**, appears, followed by text that describes the error. Possible error conditions are:

- **208 - IRERR**. This error usually indicates a faulty Interaction Recovery module configuration.
- **209 - PARTERR**. This error usually indicates a variation between the detected and required array configurations.
- **210 - BSGERR**. This error usually indicates a variation between the detected and required array configurations.
- **211 - IMGERR**. This error usually indicates a faulty Interaction Recovery module configuration.
- **212 - DICAERR**. This error usually indicates a faulty Interaction Recovery module configuration.
- **213 - CAPTERR**. An error occurred while trying to capture the current system state. This error usually indicates a faulty Interaction Recovery module configuration.
- **214 - RESTERR**. An error occurred while trying to restore the previously saved system state. This error usually indicates a faulty Interaction Recovery module configuration.
- **215 - RESTERR**. An error occurred while trying to restore the previously saved system state. This error usually indicates a variation between the detected and required disk configuration.
- **216 - DPARTERR**. An error occurred while trying to restore the previously saved system state. Click the **Restore/Capture** tab to try again.

Change Log

The following table list the changes to the *Factory Image Restoration Procedures Technical Reference* since its initial publication.

Date	Changes
03-September-2015	• Updated procedures to reflect Gen9 changes. • Updated Title page, Copyright page, and Platform Statement page. • Updated document part number. • Updated documentation resource.
02-September-2016	• Updated Title page and Copyright and Trademark Information page. • Added content for the new small Gen9 package server. • Applied general edits and layout modifications.
04-May-2018	Rebranded to Genesys.
20-May-2020	Converted Word document to RoboHelp project.