

# XClarity Essentials Bootable Media Creator

Introduction to BoMC, how-to instructions, and text-mode examples

Lenovo

## What is **Bootable Media Creator**?

Bootable Media Creator (BoMC) is a utility that can create bootable media to apply firmware updates offline.

Unlike previous versions, the bootable media creator ~~does not support~~ preboot diagnostic and operating system deployment function images for ThinkSystem servers, but this function is still supported for System x servers.

BoMC is available both as a GUI interface or a command-line interface.

# Downloading BoMC

BoMC can be downloaded from Lenovo Support at <https://datacentersupport.lenovo.com/tw/zh/solutions/Invo-bomc>

Download Bootable Media Creator (BoMC) V12.4.0

Note: You must have administrator or root-equivalent operating-system privileges to use Bootable Media Creator.

Supported Lenovo Systems

- Lenovo ThinkSystem
- Lenovo ThinkServer
- Lenovo System x

Supported Lenovo Storage

- Lenovo Storage

Supported IBM Systems


- IBM Systems

XClarity Essentials Bootable Media Creator (BoMC) Version 12.4.0	
Invgy_utl_lxce_bomc01g-12.4.0_windows_i386	<ul style="list-style-type: none"><li>Supported Operating Systems<ul style="list-style-type: none"><li>Microsoft Windows 7/8/10</li></ul></li></ul>

# How to create bootable media with the BoMC GUI

Work through the following procedure to create a bootable media for a ThinkSystem server with the GUI-based BoMC utility.

Click each number in turn to see the procedure.



Step



# How to create bootable media with the BoMC GUI

After downloading the LXCE BoMC utility from Lenovo Support, run it directly (no installation is required). When the welcome page is displayed, click **Next** to continue.

Lenovo XClarity Essentials Bootable Media Creator v12.4.0 - 01g

**1. Welcome**

2. Targeted Systems

3. Media Purpose

4. Acquire Location

5. Network Access

6. Target Directory

7. Media Format

8. Unattended Mode

9. Confirm Choices

10. Update Selection

11. Progress

12. Finish

**Welcome to the Bootable Media Creator**

Helps you to create bootable media for specified machine types and for selected tasks such as updating, diagnostics and deployment. You can create the media to use either a graphical user interface or text-based interface for performing the tasks. The descriptive name you enter here will be displayed on the screen when you start your bootable media, which can be useful to distinguish bootable media images that you create.

**NOTE: BoMC must be run with administrator privileges.**

Descriptive name:  
BootableMedia\_20220505-144310

☐ Load in a previously saved configuration

☐ Check for the latest version of this tool

[Important notice regarding Requisite Drivers](#)

Version 12.4.0 - 01g

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[Legal Information](#)

Previous Next

Step



# How to create bootable media with the BoMC GUI

Select one or more ThinkSystem servers. A single bootable image can support multiple target machine types. The **Update List** button updates the system support list. The **Rollback** button rolls back to the original system support lists.

After making a selection, click **Next** to continue.

**Targeted Systems**  
Specify what systems this bootable media should support. Please notice that you can only select systems in the same category.

**Storage Platforms**

Product Family	Machine Type
<input type="checkbox"/> D1212/D1224	4587
<input type="checkbox"/> D3284	6413

**Lenovo Platforms**

Product Family	Machine Type
<input type="checkbox"/> ThinkSystem SR850 V2	7D33
<input type="checkbox"/> ThinkSystem SR630 V2	7Z70
<input type="checkbox"/> ThinkSystem SR630 V2	7Z71
<input checked="" type="checkbox"/> ThinkSystem SR650 V2	7Z72
<input type="checkbox"/> ThinkSystem SR650 V2	7Z73
<input type="checkbox"/> ThinkSystem SR860 V2	7Z59

**IBM Platforms**

Product Family	Machine Type
<input type="checkbox"/> BladeCenter HX5	1909
<input type="checkbox"/> BladeCenter HX5	1910
<input type="checkbox"/> BladeCenter HS22	1911
<input type="checkbox"/> IBM BladeCenter HS23	1929
<input type="checkbox"/> BladeCenter HS22	1936

**Update List** **Roll Back**

**Previous** **Next**

Step





# How to create bootable media with the BoMC GUI

Select the **Media Purpose**. You can create the BoMC package with firmware updates only, or the full package with firmware updates, VPD updates, inventory and FFDC collection, advanced system configuration, diagnostics, RAID configuration, and secure erase features.

Lenovo XClarity Essentials Bootable Media Creator v12.4.0 - 01g

Lenovo

1. Welcome

2. Targeted Systems

3. Media Purpose

4. Acquire Location

5. Network Access

6. Target Directory

7. Media Format

### Media Purpose

Specify what you would like your bootable media to do. Based on what you select here, you will later be prompted for the appropriate information.

☒ **Update**

Will help you update the firmware on the machine types you choose. Note that this does not support IBM IntelliStation Pro, and it includes firmware updating only, and the drivers will need to be updated separately. The updating will be performed by LXCE UpdateXpress.

☐ **Enable Task AutoRun**

Allows a task to automatically begin when your bootable media is run on the target machine.

☐ **Full**

Will integrate all the functions in one image, including firmware update, VPD update, inventory and FFDC collection, advanced system configuration, diagnostics, RAID configuration, secure erase

☐ Look in a local directory for the RAID configuration file (\*.ini) [viewSampleFile](#)

Step



# How to create bootable media with the BoMC GUI

Follow the instructions to select the location from which you want to acquire files for the BoMC package.

Lenovo XClarity Essentials Bootable Media Creator v12.4.0 - 01g

1. Welcome

2. Targeted Systems

3. Media Purpose

4. **Acquire Location**

5. Network Access

6. Target Directory

7. Media Format

8. Confirm Choices

### Acquire Location

You can choose to acquire updates, tools and bootable image from Lenovo support web site or from local directory.

- ☒ **Check the Lenovo support web site** - Downloads the appropriate updates automatically from the Lenovo support site.
  - ☒ **UpdateXpress System Packs (UXSP's)** - UpdateXpress System Packs contain an integration-tested bundle of online, updateable firmware updates for each ThinkSystem / System X platform. This is the preferred method to obtain firmware for the server.
  - ☐ **Latest available individual updates** - Check the Lenovo support web site for the latest individual version of each firmware package. This is the preferred method when you wish to install the latest updates or when Lenovo support instructs you to install the latest updates. This option may download newer updates and hotfixes, if available, than the UXSP option above.
- ☐ **Look in a local directory** - Specify a directory on the local file system containing specific individual files to include in the bootable media. The directory should have been populated with the required files either in a previous session of this tool, or manually. See [here](#) for specific requirements on manually obtaining required files.

**Browse**

Step





# How to create bootable media with the BoMC GUI

If necessary, set up a proxy server or custom URL security configuration to download update packages.

The screenshot displays the BoMC GUI with a sidebar on the left containing eight steps: 1. Welcome, 2. Targeted Systems, 3. Media Purpose, 4. Acquire Location, 5. Network Access (highlighted in blue), 6. Target Directory, 7. Media Format, and 8. Unattended Mode. The main content area is titled 'Network Access' and includes a description: 'Internet connection is required to download update packages from the Lenovo or IBM repository. If this system needs a proxy server to access the Internet, provide the proxy server information here. It is recommended to test the connection to validate that the proxy service is working.' Below this, there are two unchecked checkboxes: 'Proxy server' and 'Custom URL security configuration'. A 'Test Connection' section follows, with a description: 'Test the connection to validate that the proxy service is working.' It contains a 'Target URL' field with the value 'https://support.lenovo.com' and a 'Lenovo URL' button. A 'Test Connection' button is also present.

1. Welcome

2. Targeted Systems

3. Media Purpose

4. Acquire Location

5. Network Access

6. Target Directory

7. Media Format

8. Unattended Mode

### Network Access

Internet connection is required to download update packages from the Lenovo or IBM repository. If this system needs a proxy server to access the Internet, provide the proxy server information here. It is recommended to test the connection to validate that the proxy service is working.

☐ Proxy server

☐ Custom URL security configuration

### Test Connection

Test the connection to validate that the proxy service is working.

Target URL:  [Lenovo URL](#)

[Test Connection](#)

Step



# How to create bootable media with the BoMC GUI

Select the target directory for the updates and other resources files.

1. Welcome

2. Targeted Systems

3. Media Purpose

4. Acquire Location

5. Network Access

6. Target Directory

**Target Directory**

Indicate which directory on your computer you want to download the updates and other resource files to. The downloaded files are only needed during the media creation process. If you will not need these downloaded files later, then you can delete them after your media has been created, after this wizard is completed.

Directory:

Step



# How to create bootable media with the BoMC GUI

Select the format you want to use for the creation of the BoMC package.

**Media Format**

Select the options for the type of media that you wish to create. For CD and DVD devices, the image file format will be ISO.

Device type:  
CD/DVD ▾

☐ Write directly to device

☒ Write to image file

D:\Project 2022\06\_XClarity\_tools\_course\BoMC\workingdir\bootable.iso **Browse**

☐ **Copy boot environment to system memory**  
When BoMC ISO is remotely mounted, this allows BoMC to copy its boot environment to system memory before update starts so that BoMC shall still work even if the mount point is lost for some reason such as an XCC reboot. This will take some extra time.

Step



## How to create bootable media with the BoMC GUI

If you selected **Update** on the **3. Media Purpose** screen, you can choose to use the **unattended mode** for the **BoMC package**. Refer to the description on the BoMC screen for more information about the **unattended mode**.

The screenshot displays the 'Unattended Mode Configuration' screen in the XClarity Essentials Bootable Media Creator. On the left, a vertical list of steps from 1 to 8 is shown. Step 8, 'Unattended Mode', is highlighted in blue. The main content area on the right is titled 'Unattended Mode Configuration' and contains a descriptive paragraph and three radio button options. The first option, 'Reboot BMC after updating BMC firmware automatically', is checked with a blue square. The second option, 'Do not use unattended mode', is selected with a blue circle. The third option, 'Use unattended mode', is unselected with a grey circle.

1. Welcome

2. Targeted Systems

3. Media Purpose

4. Acquire Location

5. Network Access

6. Target Directory

7. Media Format

8. Unattended Mode

### Unattended Mode Configuration

Helps you to create your created image able to run in a completely unattend mode. In that case, it will upload the log files onto your TFTP server, FTP server, your network file share(NFS/Samba) or your USB drive and shutdown your clients after the firmware update process. If you want to upload the log files onto the TFTP, FTP server, NFS or Samba server, please make sure the directory has been created and anonymous access granted.

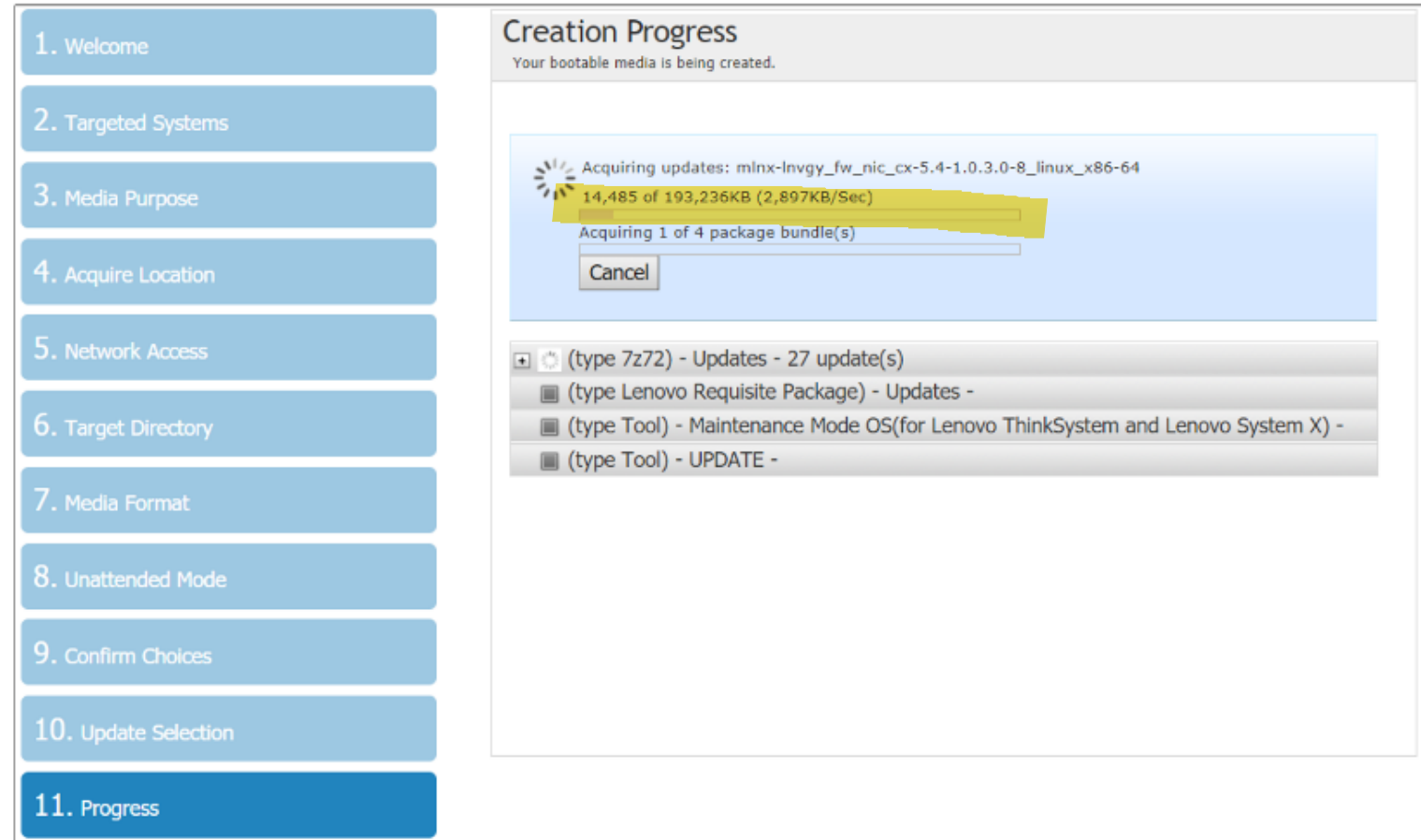
- ☒ Reboot BMC after updating BMC firmware automatically.
- ☒ Do not use unattended mode
- ☐ Use unattended mode

Step



# How to create bootable media with the BoMC GUI

You can review your choices on the **9. Confirm Choices** screen and update your selection on the **10. Update Selection** screen. BoMC will start **downloading** the update files on the **11. Progress** screen.



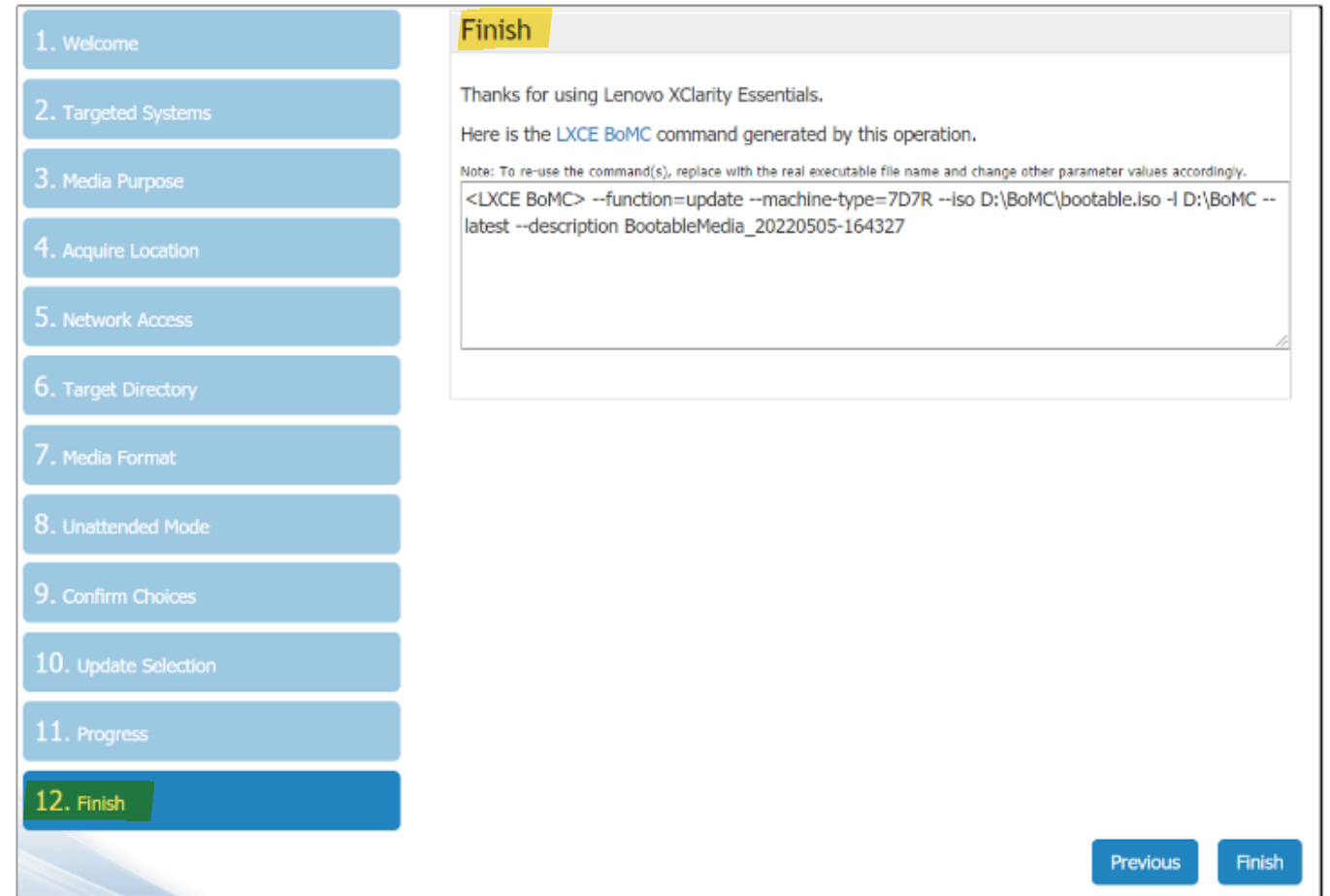
Step





# How to create bootable media with the BoMC GUI

The bootable media creation process is complete. Click **Finish** to close the utility.



Step



# How to create bootable media with BoMC CLI mode

To create a bootable image to perform software updates using BoMC CLI mode, open a command prompt or terminal and navigate to the BoMC root directory.

Click the different options on the left to see the commands used to perform bootable image creation.

Check for a new  
version of BoMC

Create a bootable  
image using an HTTP  
proxy

Create a bootable  
image on a USB  
device

Create a bootable  
image using local files

Create a bootable  
image that supports all  
ThinkSystem servers

## For Windows

```
lnvgy_utl_bomc_<version>_windows_i386.exe --check-update --report
```

## For Linux

```
./lnvgy_utl_bomc_<version>_slesXX_i386.bin --check-update --report
```

# How to create bootable media with BoMC CLI mode

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image using local files

Create a bootable  
image that supports all  
ThinkSystem servers

## For Windows

```
lnvgy_utl_bomc <version>_windows_i386.exe --function=update --  
machine-type=<machine type>  
-l <working directory> --iso=<output filename.iso> --proxy-  
address=<proxy ip address>  
--proxy-port=<proxy port> --proxy-user=<username> --proxy-  
password=<password>
```

## For Linux

```
./lnvgy_utl_bomc <version>_slesXX_i386.bin --function=update --  
machine-type=<machine type>  
-l <working directory> --iso=<output filename.iso> --proxy-  
address=<proxy ip address>  
--proxy-port=<proxy port> --proxy-user=<username> --proxy-  
password=<password>
```

# How to create bootable media with BoMC CLI mode

To create a bootable image to perform software updates using BoMC CLI mode, open a command prompt or terminal and navigate to the BoMC root directory.

Click the different options on the left to see the commands used to perform bootable image creation.

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device

Create a bootable  
image using local files

Create a bootable  
image that supports all  
ThinkSystem servers

## For Windows

```
lnvgy_utl_bomc_11.0_windows_i386.exe --function=update --  
machine-type=<machine type>  
--usbkey=<USB drive letter> -l <working directory>
```

## For Linux

```
./lnvgy_utl_bomc_<version>_slesXX_i386.bin --function=update --  
machine-type=<machine type>  
--usbkey=<USB drive letter> -l <working directory>
```

# How to create bootable media with BoMC CLI mode

To create a bootable image to perform software updates using BoMC CLI mode, open a command prompt or terminal and navigate to the BoMC root directory.

Click the different options on the left to see the commands used to perform bootable image creation.

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image using an HTTP  
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image on a USB  
device

Create a bootable  
image using local files

Create a bootable  
image that supports all  
ThinkSystem servers

## For Windows

```
lnvgy_utl_bomc_11.0_windows_i386.exe --function=update --  
machine-type=<machine type>  
-l <working directory> --iso=<output filename.iso> --no-acquire
```

## For Linux

```
./lnvgy_utl_bomc_<version>_slesXX_i386.bin --function=update --  
machine-type=<machine type>  
-l <working directory> --iso=<output filename.iso> --no-acquire
```



# How to create bootable media with BoMC CLI mode

To create a bootable image to perform software updates using BoMC CLI mode, open a command prompt or terminal and navigate to the BoMC root directory.

Click the different options on the left to see the commands used to perform bootable image creation.

Check for a new  
version of BoMC

Create a bootable  
image using an HTTP  
proxy

Create a bootable  
image on a USB  
device

Create a bootable  
image using local files

Create a bootable  
image that supports all  
ThinkSystem servers

## For Windows

```
lnvgy_utl_bomc_11.0_windows_i386.exe --function=update --  
machine-type=all-thinksystem  
-l <working directory> --iso=<output filename.iso>
```

## For Linux

```
./lnvgy_utl_bomc_<version>_slesXX_i386.bin --function=update --  
machine-type=all-thinksystem  
-l <working directory> --iso=<output filename.iso>
```

## BoMC full-functional ISO image

With BoMC version 12 or later, users can create a full-functional BoMC ISO image, which integrates the following functions into one ISO image:

- Firmware updates
- VPD updates
- Collecting inventory information and FFDC logs
- Configuring RAID
- Advanced system configuration
- Managing Features on Demand (FoD) keys
- Secure erase

The full-functional BoMC ISO image function applies to all ThinkSystem or System x servers which can support BoMC – it's not just for ThinkSystem V2 servers. Use BoMC v12.0.1 or later for ThinkSystem V2 servers.

Click each number in turn to see the procedure.

Step



# BoMC full-functional ISO image

Download and run BoMC. Select **3. Media Purpose** and then **Full** to create the **full-functional BoMC ISO image**.

The screenshot shows the 'Media Purpose' step in the XClarity Essentials Bootable Media Creator. On the left is a vertical sidebar with seven steps: 1. Welcome, 2. Targeted Systems, 3. Media Purpose (highlighted in blue), 4. Acquire Location, 5. Network Access, 6. Target Directory, and 7. Media Format. The main area is titled 'Media Purpose' and contains the following text: 'Specify what you would like your bootable media to do. Based on what you select here, you will later be prompted for the appropriate information.' There are two radio button options: 'Update' and 'Full'. The 'Full' option is selected and highlighted with a yellow background. Below the 'Update' option is a checkbox labeled 'Enable Task AutoRun' with the description 'Allows a task to automatically begin when your bootable media is run on the target machine.' Below the 'Full' option is a checkbox labeled 'Look in a local directory for the RAID configuration file (\*.ini)' with a link to 'viewSampleFile'.

1. Welcome

2. Targeted Systems

**3. Media Purpose**

4. Acquire Location

5. Network Access

6. Target Directory

7. Media Format

### Media Purpose

Specify what you would like your bootable media to do. Based on what you select here, you will later be prompted for the appropriate information.

☐ **Update**

Will help you update the firmware on the machine types you choose. Note that this does not support IBM IntelliStation Pro, and it includes firmware updating only, and the drivers will need to be updated separately. The updating will be performed by LXCE UpdateXpress.

☐ **Enable Task AutoRun**

Allows a task to automatically begin when your bootable media is run on the target machine.

☒ **Full**

Will integrate all the functions in one image, including firmware update, VPD update, inventory and FFDC collection, advanced system configuration, diagnostics, RAID configuration, secure erase

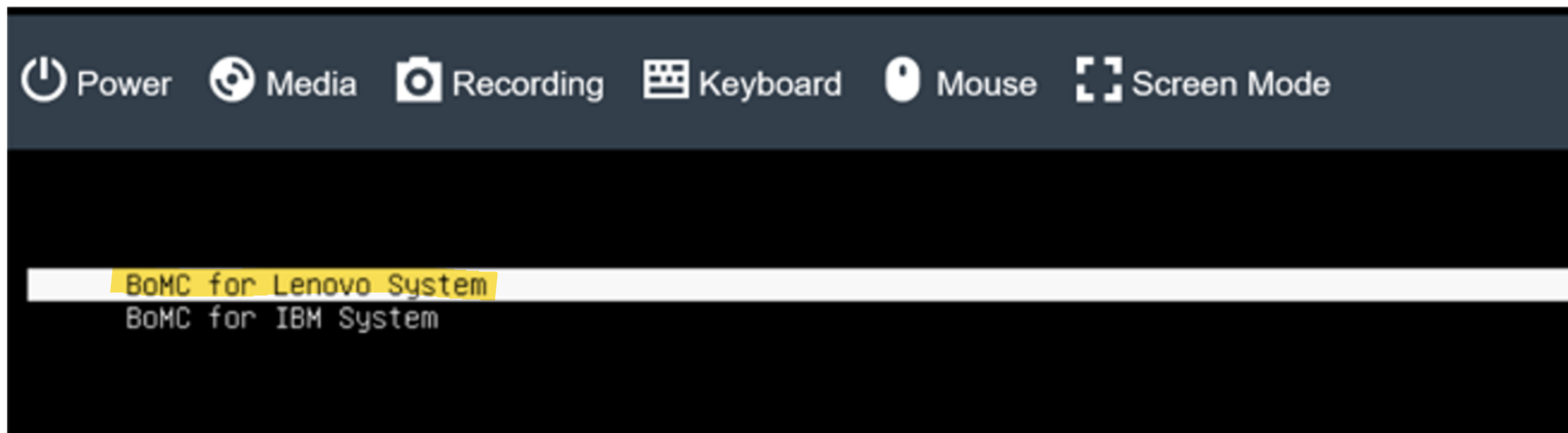
☐ Look in a local directory for the RAID configuration file (\*.ini) [viewSampleFile](#)

Step



## BoMC full-functional ISO image

After creating the ISO image, use it to boot the system. A BoMC for Lenovo or IBM system selection will be displayed. To continue, select the system type you are using.



Step



## BoMC full-functional ISO image

A text-based user interface will be displayed. To select one of the functions, enter the corresponding number.

```
[1]      Update Firmware
[2]      Update UPD
[3]      Advanced System Configuration
[4]      Collect FFDC Logs and Inventory Information
[5]      Manage FoD Keys
[6]      RAID Configuration
[7]      Secure Erase
[8]      Enable Debug Method
[9]      Save BoMC Logs

[Q]      Quit Program and Shut Down System

* Enter your option:
Please input a valid option.
```

Step **1** — **2** — **3**

