IBM

IBM Systems

IBM ToolsCenter Bootable Media Creator Installation and User's Guide

Version 9.20

IBM Systems

IBM ToolsCenter Bootable Media Creator
Installation and User's Guide

Version 9.20

> **Note**
>
> Before using this information and the product it supports, read the information in "Notices" on page 57.

This edition applies to version 9.20 of IBM ToolsCenter Bootable Media Creator and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this publication

This publication provides information about how to download and use IBM®
ToolsCenter Bootable Media Creator, including creating and using bootable media
to update, diagnose, and deploy IBM systems, troubleshooting and support, and a
command reference.

Conventions and terminology

These notices are designed to highlight key information:

Note: These notices provide important tips, guidance, or advice.

Important: These notices provide information or advice that might help you avoid
inconvenient or difficult situations.

Attention: These notices indicate possible damage to programs, devices, or data.
An attention notice appears before the instruction or situation in which damage
can occur.

Publications and related information

You can view the same content in the IBM ToolsCenter Bootable Media Creator
section in the IBM ToolsCenter for System x and BladeCenter® information center
as a PDF document. To view a PDF file, you need Adobe Acrobat Reader, which
can be downloaded for free from the Adobe website at www.adobe.com/products/
acrobat/readstep.html.

Information centers and topic collections

- **IBM ToolsCenter for System x® and BladeCenter information center**

  publib.boulder.ibm.com/infocenter/toolsctr/v1r0/index.jsp

  The IBM ToolsCenter for System x and BladeCenter information center provides
  integrated information for multiple IBM Systems x and BladeCenter tools,
  including IBM ToolsCenter Bootable Media Creator.
- **IBM ToolsCenter Bootable Media Creator**

  publib.boulder.ibm.com/infocenter/toolsctr/v1r0/topic/bomc/bomc_main.html

  The IBM ToolsCenter Bootable Media Creator topic collection provides
  information about how to download and use IBM ToolsCenter Bootable Media
  Creator, including creating and using bootable media to update, diagnose, and
  deploy IBM systems, troubleshooting and support, and a command reference.
  This information is updated periodically and contains the most up-to-date
  documentation available for IBM ToolsCenter Bootable Media Creator.

Publications

- *Installation and User's Guide*

  This publication provides information about how to download and use IBM
  ToolsCenter Bootable Media Creator, including creating and using bootable
  media to update, diagnose, and deploy IBM systems, troubleshooting and
  support, and a command reference.
- *Readme*

This publication provides downloading information, workarounds, and limitations for IBM ToolsCenter Bootable Media Creator.

Web resources

The following websites and information center topics relate to IBM ToolsCenter Bootable Media Creator.

Websites

- **IBM ToolsCenter for System x and BladeCenter**

  www.ibm.com/systems/support/supportsite.wss/docdisplay?lndocid=TOOL-CENTER&brandind=5000016

  View this website to download tools that support IBM System x and IBM BladeCenter products.

- **IBM ToolsCenter Bootable Media Creator**

  www.ibm.com/systems/support/supportsite.wss/docdisplay?lndocid=TOOL-BOMC&brandind=5000016

  View this website to download the IBM ToolsCenter Bootable Media Creator tool and documentation.

- **Support for IBM BladeCenter**

  www-304.ibm.com/systems/support/supportsite.wss/brandmain?brandind=5000020

  View this website to find information about online technical support, downloads and drivers, and RETAIN® tips, and to provide feedback about IBM BladeCenter products.

- **Support for IBM System x**

  http://www-947.ibm.com/support/entry/portal/Overview?brandind=Hardware~Systems~System_x

  View this website to find information about online technical support, downloads and drivers, and RETAIN tips, and to provide feedback about IBM System x products.

- **IBM ServerProven®**

  www.ibm.com/servers/eserver/serverproven/compat/us/

  View this website to learn about hardware compatibility of IBM System x and IBM BladeCenter systems with IBM applications and middleware.

Forums

- **IBM System x Forum**

  www.ibm.com/developerworks/forums/forum.jspa?forumID=740

  View this website on ibm.com® to learn about various forums that are available to discuss technology-related and product-related issues pertaining to IBM System x hardware and software products. This website includes a link for obtaining the forum using a Rich Site Summary (RSS) feed.

- **IBM BladeCenter Forum**

  www.ibm.com/developerworks/forums/forum.jspa?forumID=819

  View this website on ibm.com to learn about various forums that are available to discuss technology-related and product-related issues pertaining to IBM BladeCenter hardware and software products. This website includes a link for accessing the forum using a Rich Site Summary (RSS) feed.

How to send your comments

Your feedback is important in helping to provide the most accurate and highest quality information.

If you have any comments about this publication or any other IBM ToolsCenter for System x and BladeCenter publication:

- Go to the IBM ToolsCenter for System x and BladeCenter information center information center website at publib.boulder.ibm.com/infocenter/toolsctr/v1r0/index.jsp. There you will find the feedback page where you can enter and submit comments.
- Complete one of the forms at the back of any IBM ToolsCenter for System x and BladeCenter publication and return it by mail, by fax, or by giving it to an IBM representative.

Chapter 1. Technical overview

You can use IBM ToolsCenter Bootable Media Creator to create bootable media that is suitable for applying firmware updates, running preboot diagnostics, and deploying Windows operating systems on supported systems.

IBM System x and BladeCenter tools each have their own bootable CD. Using IBM ToolsCenter Bootable Media Creator, you can create a single bootable image on supported media (such as CD, DVD, ISO image, USB flash drive, or set of PXE files) that bundles multiple IBM System x and BladeCenter tools and updates from UpdateXpress System Packs, which contain Windows and Linux firmware and device driver updates. You can also create an IBM ServerGuide Setup and Installation CD for deploying Windows operating systems and updates on supported systems.

Important: Devices drivers are not included on the bootable image and must be updated separately.

IBM ToolsCenter Bootable Media Creator can acquire the latest bootable environment, UpdateXpress System Pack, individual updates, and IBM Preboot Dynamic System Analysis from the local system or download these tools and IBM ServerGuide from the IBM website. An Internet connection is required to download tools and updates from the IBM website. You can use an HTTP proxy when connecting to the Web. If you use an HTTP proxy, the HTTP server must support Secure Sockets Layer (SSL).

You can run only one instance of IBM ToolsCenter Bootable Media Creator on a system at a time, whether it is started from the graphical or command-line interface. This includes instances of IBM ToolsCenter Bootable Media Creator that are bundled in other tools, such as UpdateXpress System Pack Installer.

Beginning with IBM ToolsCenter Bootable Media Creator 9.20, Bootable Media Creator filters the update packages included in the bootable media based on the purpose of the media and the machine types you have selected.

- For deployment media containing IBM ServerGuide, which is a Windows-based tool, the Windows PE update packages for the machine types you have selected are added to the media.
- For diagnostic or update media, which use Linux-based tools, only the Linux update packages for your selected machine types are included. Previous versions of the tool included all available update packages, resulting in significantly larger media.

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

Chapter 2. Downloading IBM ToolsCenter Bootable Media Creator

This section provides information about hardware and software requirements, downloading instructions, and updating procedures.

Hardware and software requirements

IBM ToolsCenter Bootable Media Creator has specific requirements for hardware and software. These requirements include support for a certain supported operating systems and hardware requirements for running IBM ToolsCenter Bootable Media Creator, and support for certain hardware for creating and using bootable media.

Hardware requirements

To successfully run IBM ToolsCenter Bootable Media Creator, the system on which you install IBM ToolsCenter Bootable Media Creator must meet certain hardware requirements.

The system running IBM ToolsCenter Bootable Media Creator must meet this requirement:

- **Disk space**: 1.5 GB or more

Note: The required disk space depends on the size of bootable media that you want to create. You must have at least 3 times the disk space used by the working directory, which includes the bootable environment, update packages, and tools. For example, if you create a bootable ISO image and the working directory size is 600 MB, the required free disk space is 3 * 600 MB = 1.8 GB.

The Intel or AMD x86 processor processor-based systems that are booted using the created bootable media must meet this requirement:

- **Memory**: 1.5 GB or more

Note: For PXE media, you must have at least 3 times the memory of the created PXE image. For example, if the created PXE image is 600 MB, the required memory is 3 * 600 MB = 1.8 GB to boot the PXE image.

IPv6 enablement

The Bootable Media Creator supports IPv6 addressing, beginning in version 9.20. This section describes the steps to enable use IPv6 compatibility.

Serial over LAN connections

To use the Bootable Media Creator on a Serial over LAN connection in an IPv6 network, you must meet these criteria:

- On the IBM BladeCenter, the Advanced Management Module (AMM) must have a firmware level that supports IPv6, and both Serial over LAN and IPv6 must be enabled.
- The network connectivity between the SOL console and the BladeCenter must be through IPv6.
- Network connectivity for file transfer in unattended mode must be set up prior to establishing the SOL connection.

Acquisition

- Bootable Media Creator can perform acquisition over a direct LAN connection using IPv6.
- Bootable Media Creator can perform acquisition and update the support list through a proxy server with IPv6 enabled. Network connectivity from the proxy server to the destination server is not restricted to IPv6.

Connection test

- You can test connectivity from the HTTP Proxy page of the Bootable Media Creator by supplying an IPv6 address enclosed in brackets as shown here:`[2002:325b:1000::97d:5a20]`.
- The IPv6 protocol stack must be preinstalled on the system running Bootable Media Creator.

Supported hardware

You can use IBM ToolsCenter Bootable Media Creator to create bootable media that supports various IBM System x and BladeCenter systems.

Supported systems

You can run IBM ToolsCenter Bootable Media Creator on any x86 system running a supported operating system.

You can create bootable media for any supported IBM system. The following table shows the systems that support the latest UXSPs (indicated by "Yes" in the third column) and systems that support only individual updates (indicated by "No" in the third column). These systems are supported by Preboot Dynamic System Analysis.

Table 1. Supported IBM systems

Server	Machine type	UXSP support
System x 3200 M2	4367, 4368	Yes
System x 3200 M3	7327, 7328	Yes
System x 3250 M2	7657, 4190, 4191, 4194	Yes
System x 3250 M3	4251, 4252, 4261	Yes
System x 3250 M4	2583	Yes
System x 3400	7973, 7974, 7975, 7976	Yes
System x 3400 M2	7836, 7837	Yes
System x 3400 M3	7378, 7379	Yes
System x 3500	7977	Yes
System x 3500 M2	7839	Yes
System x 3500 M3	7380	Yes
System x 3500 M4	7383	Yes
System x 3530 M4	7160	Yes
System x 3550	1013, 1913, 7978	Yes
System x 3550 M2	4198, 7946	Yes
System x 3550 M3	4254, 7944	Yes
System x 3550 M4	7914	Yes
System x 3620 M3	7376	Yes

Table 1. Supported IBM systems (continued)

Server	Machine type	UXSP support
System x 3630 M3	7377	Yes
System x 3650	7979, 1914	Yes
System x 3630 M4	7158	Yes
System x 3650 M2	4199, 7947	Yes
System x 3650 M3	4255, 5454, 7945	Yes
System x 3650 M4	7915	Yes
System x 3690 X5	7147, 7148, 7149, 7192	Yes
System x 3750 M4	8722, 8733	Yes
System x 3755 M3	7164	Yes
System x 3850 M2 and System x 3950 M2	7141, 7144, 7233, 7234	Yes
System x 3850 X5	7143, 7145, 7146, 7191	Yes
System x 3950 M2 2-4 node	7141, 7233, 7234	Yes
System x 3950 X5	7143, 7145, 7146, 7191	Yes
BladeCenter HS12	8014, 8028, 1916	Yes
BladeCenter HS21	1885, 8853	Yes
BladeCenter HS21 XM	1915, 7995	Yes
BladeCenter HS22	7870, 1936, 7809, 1911	Yes
BladeCenter HS22V	1949, 7871	Yes
BladeCenter HS23	7875	Yes
BladeCenter HS23E	8038, 8039	Yes
BladeCenter HX5	1909, 1910, 7872, 7873	Yes
BladeCenter LS21	7971	Yes
BladeCenter LS22	7901	Yes
BladeCenter LS42	7902	Yes
BladeCenter LS41	7972	Yes
iDataPlex® dx320	6388	Yes
iDataPlex dx360 M2	6380, 7321, 7323	Yes
iDataPlex dx360 M3	6391	Yes
iDataPlex dx360 M4	7912, 7913	Yes
iDataPlex dx360 M4	7912, 7913	Yes
iDataPlex Direct Water Cooled dx360 M4	7918, 7919	Yes
IBM Flex System x 220 Compute Node	7906, 2585	Yes
IBM Flex System x 240 Compute Node	8737, 8738, 7863	Yes
IBM Smart Analytics System	7949	Yes

The following systems are supported by IBM ServerGuide:
- System x and xSeries® servers:
  - IBM System x3100, machine type 4348
  - IBM System x3100 M4, machine type 2582
  - IBM System x3200, machine type 4362, 4363
  - IBM System x3200 M2, machine type 4367, 4368

- IBM System x3200 M3, machine type 7327, 7328
- IBM System x3250, machine type 4364, 4365, 4366
- IBM System x3250 M2, machine type 4190, 4191, 4194
- IBM System x3250 M3, machine type 4251, 4252, 4261
- IBM System x3250 M4, machine type 2583
- IBM System x3350, machine type 4192, 4193
- IBM System x3400 and x3500, machine type 7973, 7974, 7975, 7976, 7977
- IBM System x3400 M2 and x3500 M2, machine type 7836, 7837, 7839
- IBM System x3400 M3, machine type 7378, 7379
- IBM System x3455, machine type 7940, 7941
- IBM System x3500 M3, machine type 7380
- IBM System x3500 M4, machine type 7383
- IBM System x3530 M4, machine type 7160
- IBM System x3550, machine type 7978, 1913
- IBM System x3550 M2, machine type 4198, 7946
- IBM System x3550 M3, machine type 4254, 7944
- IBM System x3550 M4, machine type 7914
- IBM System x3620 M3, machine type 7376
- IBM System x3630 M3, machine type 7377
- IBM System x3630 M4, machine type 7158
- IBM System x3650, machine type 7979, 1914
- IBM System x3650 M2, machine type 4199, 7947
- IBM System x3650 M3, machine type 4255, 5454, 7945
- IBM System x3650 M4, machine type 7915
- IBM System x3650 T, machine type 7980
- IBM System x3655, machine type 7943
- IBM System x3690 X5, machine type 7147, 7148, 7149, 7192
- IBM System x3750 M4, machine type 8722, 8733
- IBM System x3750 X5, machine type 7148, 7149
- IBM System x3755 M3, machine type 7164
- IBM System x3800, machine type 8866
- IBM System x3850 M2, machine type 7141, 7144
- IBM System x3850 X5, machine type 7143, 7145, 7191
- IBM System x3950, machine type 7366, 8878
- IBM System x3950 M2, machine type 7233, 7234
- IBM System x3950 X5, machine type 7143, 7146, 7191
- IBM Smart Analytics System, machine type 7949
- IBM BladeCenter servers:
  - IBM BladeCenter HS12 machine type 8014, 8028, 1916
  - IBM BladeCenter HS21, machine type 8853, 1885
  - IBM BladeCenter HS21 XM, machine type 7995, 1915
  - IBM BladeCenter HS22, machine type 1936, 7809, 7870
  - IBM BladeCenter HS22V, machine type 1949, 7871
  - IBM BladeCenter HS23, machine type 7875
  - IBM BladeCenter HS23E, machine type 8038, 8039
  - IBM BladeCenter LS21/LS41, machine type 7971, 7972
  - IBM BladeCenter LS22/LS42, machine type 7901, 7902
  - IBM Blade Center HX5, machine type 1909, 7872, 7873
  - IBM System x iDataplex dx360 M2, machine type 7321, 7323, 6380
  - IBM System x iDataplex dx360 M3, machine type 6391
  - IBM System x iDataplex dx360 M4, machine type 7912, 7913
  - IBM System x iDataPlex Direct Water Cooled dx360 M4, machine type 7918, 7919
  - IBM Flex System x220 Compute Node, machine type 7906, 2585
  - IBM Flex System x240 Compute Node, machine type 8737, 8738, 786[...]
  - IBM Flex System Manager Node, machine type 7955, 8731, 8734

Notes:

- System x 3450 does not detect all firmware, specifically BIOS and BMC update; however, you can use UpdateXpress System Pack Installer to update the BIOS/BMC image.
- System x 3850 M2 and System x 3950 M2 are supported in single node as well as multi node.
- System x 460, MXE-460 and System x 3950 are supported only in single node. To update a multi-node system, you must break apart the nodes and update as single nodes.
- System x 3450 machine type 4197 is not supported by the IBM ToolsCenter Bootable Media Creator.

Supported operating systems

You can run IBM ToolsCenter Bootable Media Creator on systems running on one of several operating systems, including 32-bit and 64-bit.

- **Windows:**
  - Windows XP Professional Edition
  - Windows Vista Ultimate Editions
  - Windows Storage Server 2003 (supports only the latest Service Pack)
  - Windows Storage Server 2003, Release 2 (supports only the latest Service Pack)
  - Windows Small Business Server 2003 Enterprise and Standard Editions (supports only the latest Service Pack)
  - Windows Small Business Server 2003 Enterprise and Standard Editions, Release 2 (supports only the latest Service Pack)
  - Windows Small Business Server 2011
  - Windows Server 2003 Enterprise and Standard Editions (supports only Service Pack 2)
  - Windows Server 2003 Enterprise and Standard Editions, Release 2 (supports only Service Pack 2)
  - Windows Server 2008 Web, Standard, and Enterprise Edition (supports only Service Pack 1)
  - Windows Server 2008 R2
  - Windows 7
- **Linux:**
  - Red Hat Enterprise Linux AS, ES, and WS version 3.0 (supports only Update 9)
  - Red Hat Enterprise Linux AS, ES, and WS version 4.0 (supports Updates 7-9)
  - Red Hat Enterprise Linux AS, ES, and WS, version 5.0 with and without the Xen Kernel (supports Updates 2-8)
  - Red Hat Enterprise Linux AS, ES, and WS, version 6.0 with and without the Xen Kernel (supports Update 1, 2)
  - SUSE Linux Enterprise Server 9 (supports only Service Pack 4)
  - SUSE Linux Enterprise Server 10 with or without the Xen Kernel (supports Service Packs 2-4)
  - SUSE Linux Enterprise Server 11 with or without the Xen Kernel (supports Service Pack 1, 2)

Notes:

- There is no executable file for the Windows 64-bit operating system. However, you can run the executable file for the Windows 32-bit operating system through Windows on Windows (WOW).
- You cannot run IBM ToolsCenter Bootable Media Creator on Windows Preinstallation Environment (WinPE).

Supported tools

You can bundle these tools on the bootable media:
- IBM ServerGuide
- UpdateXpress System Pack Installer
- Preboot Dynamic System Analysis

Supported browsers

To use the graphical interface to create bootable media at least one of the supported browsers must be accessible to the IBM ToolsCenter Bootable Media Creator:
- Firefox 2.0 or higher
- Mozilla 1.7 or higher
- Internet Explorer 6.0 or higher. Windows Server 2003 requires Internet Explorer 7.0 or higher.
- SeaMonkey 1.1.4 or higher

Supported bootable media

IBM ToolsCenter Bootable Media Creator creates bootable images on several forms of media, including CD, DVD, ISO image, USB flash drive, or PXE files.

Supported PXE servers

You can create bootable Preboot Execution Environment (PXE) files for the following PXE servers:
- (Windows only) Altiris PXE server
- (Linux only) Trivial File Transport Protocol (TFTP) server
- (Linux only) Dynamic Host Configuration Protocol (DHCP) server

Supported USB flash drives

You can create bootable media on the following USB flash drives:
- SanDisk USB flash drives, including Cruzer Micro 1-GB, 2-GB, 4-GB, and 8–GB
- Lexar USB flash drives, including JumpDrive Lightning 1-GB, 2-GB, 4-GB, and 8–GB

Downloading IBM ToolsCenter Bootable Media Creator

After downloading IBM ToolsCenter Bootable Media Creator, you can start using it. IBM ToolsCenter Bootable Media Creator is a self-extracting application and does not need to be installed. It is extracted automatically to a temporary directory when it is run. The temporary directory is random and changes each time you run the tool.

About this task

You can download IBM ToolsCenter Bootable Media Creator from the IBM ToolsCenter Bootable Media Creator website at www.ibm.com/systems/support/supportsite.wss/docdisplay?lndocid=TOOL-BOMC&brandind=5000016.

Updating IBM ToolsCenter Bootable Media Creator

You can check the web for a newer version of IBM ToolsCenter Bootable Media Creator and download it to your local system if an update is available.

About this task

Perform these steps to update IBM ToolsCenter Bootable Media Creator:

Procedure

1. From a command line, enter the command name with no options to start the IBM ToolsCenter Bootable Media Creator wizard. The command name depends on the OS from which you are running the command. The following table lists the name of the command for each supported operating system.

   Tip: You can also start the wizard from the command line by entering the command name without any options.

Operating system	Command name
Windows	ibm_utl_bomc_*v.r.m*_windows_i386.exe
Red Hat Enterprise Linux 3.0	ibm_utl_bomc_*v.r.m*_rhel3_i386.bin
Red Hat Enterprise Linux 3.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel3_x86-64.bin
Red Hat Enterprise Linux 4.0	ibm_utl_bomc_*v.r.m*_rhel4_i386.bin
Red Hat Enterprise Linux 4.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel4_x86-64.bin
Red Hat Enterprise Linux 5.0	ibm_utl_bomc_*v.r.m*_rhel5_i386.bin
Red Hat Enterprise Linux 5.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel5_x86-64.bin
Red Hat Enterprise Linux 6.0	ibm_utl_bomc_*v.r.m*_rhel6_i386.bin
Red Had Enterprise Linux 6.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel6_x86-64.bin
SUSE Linux Enterprise Server 9	ibm_utl_bomc_*v.r.m*_sles9_i386.bin
SUSE Linux Enterprise Server 9 64-bit	ibm_utl_bomc_*v.r.m*_sles9_x86-64.bin
SUSE Linux Enterprise Server 10	ibm_utl_bomc_*v.r.m*_sles10_i386.bin
SUSE Linux Enterprise Server 10 64-bit	ibm_utl_bomc_*v.r.m*_sles10_x86-64.bin
SUSE Linux Enterprise Server 11	ibm_utl_bomc_*v.r.m*_sles11_i386.bin
SUSE Linux Enterprise Server 11 64-bit	ibm_utl_bomc_*v.r.m*_sles11_x86-64.bin

   The License Agreement screen opens.

2. Accept the license agreement to proceed to the Welcome screen.
3. From the Welcome to the IBM ToolsCenter Bootable Media Creator page, select **Check for the latest version of this tool** to check the Web for the latest version of IBM ToolsCenter Bootable Media Creator, and download the newer version, if available, to the directory where the command was run.
4. Click **Next**.
5. From the HTTP Proxy page, complete these fields.

   Do not use proxy
   > Select this radio button if you do not require an HTTP proxy to connect to the Web.

   Use proxy
   > Select this radio button if you require an HTTP proxy to connect to the Web, and then complete these fields:

   > **Host name**
   > > The host name, IP address, or domain name of the HTTP proxy server.

   > **Port** The port number of the HTTP proxy server.

Authenticate using the following credentials
Select this check box if credentials must be specified to authenticate to the HTTP proxy server, and then complete these fields:

User name
The user name to use for authenticating to the HTTP proxy server.

Password
The password for the specified user name.

Test Connection
Click this button to test the connection to the specified HTTP proxy server.

6. Click **Next**.

7. If a new version is:
   - Not available, click **Next** to continue creating bootable media, or click **Cancel** to close the wizard.
   - Is available, click **Download Now** to download the latest version.

Chapter 3. Creating and updating bootable media

Creating bootable media

You can create a new bootable image on supported bootable media.

About this task

Perform these steps to create bootable media:

Procedure

1. From a command line, enter the command name with no options to start the IBM ToolsCenter Bootable Media Creator wizard. The command name depends on the operating system from which you are running the command. The following table lists the name of the command for each supported operating system.

   Tip: You can also start the wizard from the command line by entering the command name without any options.

Operating system	Command name
Windows	ibm_utl_bomc_*v.r.m*_windows_i386.exe
Red Hat Enterprise Linux 3.0	ibm_utl_bomc_*v.r.m*_rhel3_i386.bin
Red Hat Enterprise Linux 3.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel3_x86-64.bin
Red Hat Enterprise Linux 4.0	ibm_utl_bomc_*v.r.m*_rhel4_i386.bin
Red Hat Enterprise Linux 4.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel4_x86-64.bin
Red Hat Enterprise Linux 5.0	ibm_utl_bomc_*v.r.m*_rhel5_i386.bin
Red Hat Enterprise Linux 5.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel5_x86-64.bin
Red Hat Enterprise Linux 6.0	ibm_utl_bomc_*v.r.m*_rhel6_i386.bin
Red Had Enterprise Linux 6.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel6_x86-64.bin
SUSE Linux Enterprise Server 9	ibm_utl_bomc_*v.r.m*_sles9_i386.bin
SUSE Linux Enterprise Server 9 64-bit	ibm_utl_bomc_*v.r.m*_sles9_x86-64.bin
SUSE Linux Enterprise Server 10	ibm_utl_bomc_*v.r.m*_sles10_i386.bin
SUSE Linux Enterprise Server 10 64-bit	ibm_utl_bomc_*v.r.m*_sles10_x86-64.bin
SUSE Linux Enterprise Server 11	ibm_utl_bomc_*v.r.m*_sles11_i386.bin
SUSE Linux Enterprise Server 11 64-bit	ibm_utl_bomc_*v.r.m*_sles11_x86-64.bin

2. From the Welcome to the IBM ToolsCenter Bootable Media Creator page, type a description in the **Descriptive name** field. The descriptive text is displayed on the screen when you use the bootable media.
3. Click **Next**.
4. From the Media Purpose page, complete these fields and then click **Next**:

   Updates
   > Select this check box to bundle UpdateXpress System Pack Installer and firmware updates for the targeted systems on the bootable media.

   Notes:

- If you create bootable media on a system that is of the same machine type as the target system or a system that is in the supported systems list, the machine type is automatically highlighted and selected.
- Updating firmware is performed using UpdateXpress System Pack Installer.
- This function updates only firmware. Device drivers must be updated separately.
- IBM Intellistation Pro is not supported.

Include firmware updates in the bootable media
This option is displayed only if you have selected **Deployment**. By default, the IBM ServerGuide Setup and Installation CD includes only device driver updates. Select this checkbox to include firmware updates on the CD. The firmware updates are deployed after the operating system deployment is complete.

Diagnostics
Select this check box to bundle Dynamic System Analysis on the bootable media. This option is disabled if you select **Deployment**.

Deployment
Select this check box to create an IBM ServerGuide Setup and Installation CD. This option is disabled if you select **Diagnostics**. Selecting this option disables the following options:
> **Diagnostics**
> **Enable Task Autorun**
> **Create the media to use tui mode**

> **Note:** This option is only displayed on Windows platforms.

Enable Task AutoRun
Select this check box to automatically start the selected tool, either UpdateXpress System Pack Installer or Dynamic System Analysis, when you boot from the media. This option cannot be selected with **Deployment**.

Create media to use a text-based (non-graphical) user interface
Select this check box to start the tools in a text user interface. If this checkbox is not selected, the tools start in a graphical user interface. This option cannot be selected with **Deployment**.

5. From the Acquire Location page, complete these fields and then click **Next**:

Check the IBM website
Select this radio button to acquire the latest updates from the IBM website before creating the bootable media.

> **UpdateXpress System Pack (UXSPs)**
> Select this radio button to acquire complete UpdateXpress System Packs. UpdateXpress System Pack contains an integration-tested bundle of online, firmware updates for each System x and BladeCenter system. This is the preferred method to obtain updates.

> **Latest available individual updates**
> Select this radio button to acquire individual updates.

Look in a local directory
Select this radio button to acquire updates, tools, and boot

environment from the local system. Type the fully qualified path and file name in the given field, or click the **Browse** button to select the file.

6. From the HTTP Proxy page, complete these fields:

   Do not use proxy
   > Select this radio button if you do not require an HTTP proxy server to connect to the Web.

   Use proxy
   > Select this radio button if you require an HTTP proxy server to connect to the Web, and then complete these fields:

   > **Host name**
   >> The host name, IP address, or domain name of the HTTP proxy server.

   > **Port** The port number for the HTTP proxy server.

   > **Authenticate using the following credentials**
   >> Select this check box if credentials must be specified to authenticate to the HTTP proxy server, and then complete these fields:

   >> **User name**
   >>> The user name to use for authenticating to the HTTP proxy server.

   >> **Password**
   >>> The password for the specified user name.

   > **Test Connection**
   >> Click this button to test the connection to the specified HTTP proxy server.

7. Click **Next** to go to the Targeted Systems page.

8. From the Targeted Systems page, select one or more machine types that you want the bootable media to support and then click **Next**. Use the **Update List** button to update the system support list for all functions.

   Use the **Rollback** button to roll back to the original system support lists bundled with each function.

   Tips:
   - Click **Select All** to select all machine types or click **Unselect All** to unselect all machine types.
   - You can manually add or delete machine types for IBM systems using the **Add** or **Delete** button.
   - If a function is not supported by a system, selection of the unsupported function is disabled for that system.
   - To add support for new systems or updates released after the current version of the Bootable Media Creator, use **Update List** to update the support list from the IBM website.

9. From the Target Directory page, complete the following fields:

   Directory
   > Specify the directory where you want to store the downloaded files.

10. From the Media Format page, perform one of the following tasks to specify the format to use for the bootable media:
    - To create an ISO image, complete these fields:

Device type
> Select CD/DVD.

Write to image file
> Select this radio button, and then type the fully qualified path and file name for the ISO image in the given field.

- To create a CD or DVD, complete these fields:

Device type
> Select CD/DVD.

Write directly to device
> Select this radio button to write the bootable medium to the specified CD or DVD drive.

Disk   Select the letter associated with the CD or DVD drive for Windows (such as E:) or the device name for Linux (such as /dev/hdb).

- To create a USB flash drive, complete these fields:

Device type
> Select USB.

Write directly to device
> Select this radio button to write the bootable medium to the specified USB flash drive.

Disk   Select the letter associated with the USB flash drive for Windows (such as E:) or the device name for Linux (such as /dev/hdb).

- To create PXE files, complete these fields:

Device type
> Select PXE.

PXE TFTP server address:
> Specify the IP address of the TFTP server to use for PXE boot.

Directory to write PXE files to:
> The fully qualified path or click **Browse** to select the path where you want to write the PXE files in the given field.

11. Click **Next**. If you selected only UXSPI functions from the Media Purpose page, the Unattended Mode Configuration page is displayed. Complete the following fields:

Do not use unattended mode
> Select this radio button to disable unattended mode.

Use unattended mode
> Select this radio button to enable unattended updates. If you select this option you must complete the following additional fields:

> **Upload log files to:**
> > Use this drop down menu to choose where to place the log files when unattended updates are complete. Your choices are:
> > - TFTP Server
> > - FTP Server
> > - NFS Share
> > - Samba Server
> > - USB Drive
> >
> > **Note:**

a. To upload log files to a TFTP, FTP, or Samba server, or to an NFS share, the directory to which the files are to be uploaded must already exist (it will not be created as part of the upload process), and it must allow anonymous access.

b. To upload the unattended log package to the specified location, you must ensure that you can perform the following actions, if you are using the SLES 10 x86–64 operating system environment:

   • For Samba shares: `mount -t cifs //$address/ $directory $mount_point -o user=anonymous, password=anonymous`

   • For NFS shares: `mount -t nfs $address:$directory $mount_point`

   • For FTP and TFTP uploads, ensure that the local file can be uploaded to the address and directory specified in the **FTP** or **TFTP** command.

Server Address
The address of the server to which you want to load the log files.

Save to directory
Indicates the directory where the logs are saved.

12. From the Confirm Choices page, review the configuration information you provided for creating the bootable media.

13. Optional: Click **Save** to save this configuration information to a file, which you can import into this tool to recreate this bootable media at a later time.

14. Click **Next**.

    The Creation Progress page is displayed. IBM ToolsCenter Bootable Media Creator acquires UpdateXpress System Pack updates if appropriate, Dynamic System Analysis if specified, and then creates the bootable media. A progress bar indicates that the acquisition and creation are in progress and shows the percentage of progress completed.

15. When the bootable media is complete, click **Next**.

16. Click **Finish**.

Creating bootable media combining firmware and operating system updates

This topic details the steps to combine firmware updates with operating system updates in a single bootable media.

When creating firmware update media, the Bootable Media Creator copies the required Linux updates directly from the root of the working directory, but operating system updates can be located elsewhere. To include additional updates on firmware update media, follow these steps:

1. Create a subdirectory in the working directory to hold the updates, for example `workingdirectory\windows_updates`.

2. Use the UpdateXpress System Pack Installer to download updates to this directory.

3. Create the media. The directory that you created is created on the bootable media as a subdirectory of the root directory, and includes the UpdateXpress System Pack Installer.

You can now use the media on a Windows system by executing the command: *X:*\windows_updates\uxspi400.exe, where *X:* is the drive of the bootable media.

Creating bootable media for a specific firmware update

You can create bootable media that contains a specific firmware update, such as BIOS or Baseboard Management Controller (BMC).

About this task

Perform the following steps to create bootable media for a specific firmware update:

Procedure

1. Download the firmware update, such as BIOS or BMC, to the working directory on the local system. Be sure to download both the binary files and the .xml file used by the UpdateXpress System Pack Installer, or UpdateXpress cannot detect the update. You can download updates from Software and device drivers for IBM System x website at www-947.ibm.com/systems/support/supportsite.wss/selectproduct?familyind=0&typeind=5237346&modelind=5279607&osind=0&brandind=5000008&oldbrand=5000008&oldfamily=5237195&oldtype=5237346&taskind=2&matrix=Y&psid=dm.

2. Create a bootable media using the downloaded firmware update. For example, enter the following command from a system running Windows to create an ISO image using the update file located in the c:\workingdir directory. The UpdateXpress System Pack Installer tool and bootable environment are acquired from the IBM website by default.

   ```
    ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi --iso=bmc.iso --local=
   c:\workingdir
   ```

   Note: If no machine type is specified, the default value is **All**, which will download all available machine types.

Creating bootable media that acquires updates from an NFS/Samba server

You can create bootable media that acquires UpdateXpress System Pack Installer or individual updates from an NFS or Samba server.

About this task

Perform the following steps to create bootable media for Linux systems that acquires updates from an NFS/Samba server:

Procedure

1. Create a start.sh file in the working directory, and customize it with information about NFS and Samba. The following text shows a sample start.sh file.

   ```
   #!/bin/sh
   #
   # This script prepares the current Linux environment for ToolsCenter.
   export PATH=$PATH:/sbin:/usr/sbin:/usr/local/sbin:/root/bin:/usr/local|
   ```

```
/bin:/usr/bin:/usr/X11R6/bin:/bin:
/usr/games:/usr/lib/mit/bin:/usr/lib/mit/sbin

cp -f /toolscenter/media_check.sh /tmp/media_check.sh
chmod +x /tmp/media_check.sh

cd /toolscenter/
chmod -R +x * /dev/null 2>/dev/null
dos2unix /toolscenter/bomc.config > /dev/null 2>&1

#disable Crtl+z and Ctrl+c
trap "" 2 20

BOMC_MENU=/toolscenter/menu/show_menu.sh
BOMC_LOG_FILE=/tmp/bomc.log
BOMC_REMOTE_CHECK=/toolscenter/menu/check_remote.sh

# Export the UXSPI_TIMEOUT environment to uxspi
TIMEOUT=60
if cat bomc.config | grep IBM_SYSTEM_TIMEOUT > /dev/null 2>&1
then
  TIMEOUT=`cat bomc.config | grep IBM_SYSTEM_TIMEOUT | sed 's
/IBM_SYSTEM_TIMEOUT=//'`
fi
export UXSPI_TIMEOUT=${TIMEOUT}

#Export environment for UXSPI UXSP's/latest
if cat bomc.config | grep "IBM_SYSTEM_LATEST=YES" > /dev/null 2>&1
then
 export UXSPI_LATEST=1
fi

# setup a mount point
mkdir -p /bomcmount
# NFS mount (replace i⁻192.168.196.61:/nfsbooti⁻ with your NFS serveri
⁻s IP and directory)
mount -t nfs 192.168.196.61:/nfsboot /bomcmount -o unlock
# Samba mount (replace i⁻//192.168.253.26/sambarooti⁻ with your Samba
serveri⁻s IP and
# directory)
#mount -t cifs //192.168.253.26/sambaroot /bomcmount -o user=Guest,
password=passw0rd

# SEP environment variable
export SEP_REPOSITORY_PATH=/toolscenter
export SEP_INSTALL_PATH=/tmp

# UXSPI environment variable
export UXLITE_CLEAN_INVFILE=1
export UXSPI_CLEAN_INVFILE=1
export UXSPI_BOOTABLE=/bomcmount

if [ -d /toolscenter/uxspi ]
then
  export UXSPI_BINARY_PATH=`find /toolscenter/uxspi -name 'uxspi*.anyos'
| sort | tail -n 1`
else
  export UXSPI_BINARY_PATH=""
fi
export UXSPI_GUI_CMD="xterm -geometry 170x59 +sb -e ${UXSPI_BINARY_PATH}"
if [ "${UXSPI_LATEST}" = "1" ]
then
  export UXSPI_TUI_CMD="${UXSPI_BINARY_PATH} update --tui --firmware -l
${UXSPI_BOOTABLE}
--timeout=${UXSPI_TIMEOUT}  -L"
else
export UXSPI_TUI_CMD="${UXSPI_BINARY_PATH} update --tui --firmware -l
${UXSPI_BOOTABLE}
--timeout=${UXSPI_TIMEOUT}"
fi


${BOMC_REMOTE_CHECK} /toolscenter
if [ $? -eq 0 ]; then
  echo "Remote mounting via remote IMM/network" >> ${BOMC_LOG_FILE}
else
  echo "NOT mounted via remote IMM/network" >> ${BOMC_LOG_FILE}
  export UXSPI_REDUCE_COPY=1
fi
# DSA environment variable
export DSA_PATH=/tmp/embed:/tmp/embed/qlogic:/usr/X11R6/lib64:/usr/X11R6/lib
export DSA_GUI_CMD="xterm -geometry 170x59 +sb -e /toolscenter/dsa/start.sh --gui"
export DSA_CMD_CMD="xterm -geometry 170x59 +sb -e /toolscenter/dsa/start.sh --cmd"
```

```
#export DSA_TUI_CMD="/toolscenter/dsa/start.sh --cmd"

# Export environment for exit script command
if cat bomc.config | grep "IBM_SYSTEM_MEDIA_EJECT=NO" > /dev/null 2>&1
then
 export BOMC_EXIT_CMD="/toolscenter/tcexit_noeject.sh"
else
 export BOMC_EXIT_CMD="/toolscenter/tcexit.sh"
fi
# Export environment for UXSPI autorun command
if cat bomc.config | grep "IBM_SYSTEM_AUTORUN=uxspi" > /dev/null 2>&1
then
 export UXSPI_AUTORUN=1
fi




# Export the unattended mode environment variable
UNATTD_FULLSTR=`cat bomc.config | grep IBM_SYSTEM_UNATTENDED | sed 's
/IBM_SYSTEM_UNATTENDED=//'`
if echo ${UNATTD_FULLSTR} | grep '[tftp://|ftp://|nfs://|smb://|usb:/]'
 > /dev/null 2>&1
then
  echo "Unattended mode specified by user" >> ${BOMC_LOG_FILE}
  export BOMC_UNATTENDED_MODE=1
fi

if [ $# -eq 0 ]
then
  echo "Running in non SOL mode" >> ${BOMC_LOG_FILE}
  export DSA_TUI_CMD="/toolscenter/dsa/start.sh --cmd"
  if [ "${BOMC_UNATTENDED_MODE}" = "1" ]
  then
    echo "Calling show_menu.sh unattended" >> ${BOMC_LOG_FILE}
   ${BOMC_MENU} unattended
  else
    echo "Calling show_menu.sh attended" >> ${BOMC_LOG_FILE}
   ${BOMC_MENU} attended
  fi
else
  if [ "$1" = "serial" ]
  then
        echo "Running in SOL mode - Console" >> ${BOMC_LOG_FILE}
     export BOMC_SOL_MODE=1
     export DSA_TUI_CMD="/toolscenter/dsa/start.sh serial --cmd"
 if [ "${BOMC_UNATTENDED_MODE}" = "1" ]
 then
     echo "Calling show_menu.sh unattended" >> ${BOMC_LOG_FILE}
    ${BOMC_MENU} unattended
 else
     echo "Calling show_menu.sh attended" >> ${BOMC_LOG_FILE}
    ${BOMC_MENU} attended
 fi
 elif [ "$1" = "serial-on" ]
 then
        while [ 1 ];do
           clear
           echo "ToolsCenter started on SOL console......type \"reboot\"
       to reboot the system"
      read INPUT
           if [ "${INPUT}" = "reboot" ]
           then
            echo "Rebooting the system ..."
               ${BOMC_EXIT_CMD} reboot
               exit
      elif [ "${INPUT}" = "r2d2" ]
      then
          sh
      fi
        done
  fi
fi

# Exit ToolsCenter
echo "Using Exit Script: ${BOMC_EXIT_CMD}...."
sleep 3

if [ "${BOMC_UNATTENDED_MODE}" = "1" ]
then
 # Shut down the system when it's unattended image
 ${BOMC_EXIT_CMD} shutdown
elif cat bomc.config | grep "IBM_SYSTEM_PXE_FILE=NULL" > /dev/null 2>&1
```

```
then
 echo "Rebooting the system ..."
 ${BOMC_EXIT_CMD} reboot
else
 # Shut down the system when it's PXE image
 echo "Shut down the system ..."
 ${BOMC_EXIT_CMD} shutdown
fi
exit 0
```

> **Note:** You must ensure the following:
> - The **UXSPI_BOOTABLE** environment variable has been exported as your NFS or Samba mounting folder. In this example **/bomcmount**.
> - The **UXSPI_REDUCE_COPY** environment variable is **not** exported, as this can cause network connection problems when performing firmware updates.

2. Create a bootable media. For example, enter the following command from a system running Windows:

   ```
   ibm_utl_bomc_v.r.m_windows_i386.exe -m 8843 --cd=E: -l workingdir
   ```

What to do next

Before you boot the target system using the created bootable media:
- Place UpdateXpress System Pack or individual updates on the NFS or Samba server.
- Ensure the target system has access to the NFS or Samba server.

Creating an IBM ServerGuide Setup and Installation CD

You can use Bootable Media Creator to create an IBM ServerGuide Setup and Installation CD.

Before you begin

Creation of an IBM ServerGuide CD is only supported on Windows operating systems, and requires that you have installed the Microsoft Windows Automated Installation Kit (AIK), English version. You can download the AIK from http:www.microsoft.com.

The amount of drive space required to create an IBM ServerGuide Setup and Installation CD depends on the options selected.
- Creating an IBM ServerGuide Setup and Installation CD for deployment only requires 1.5 GB of space, regardless of the number of systems selected. The generated ISO image is approximately 700 MB in size, and will fit on a CD.
- If you select **Updates**, the amount of space required depends on the number of systems selected for update. If all systems are selected, approximately 6 GB of drive space i required. The resulting ISO image will be approximately 3.3 GB, and require a DVD.

About this task

Perform these steps to create an IBM ServerGuide Setup and Installation CD:

Procedure

1. From a command line, enter **ibm_utl_bomc_v.r.m_windows_i386.exe** to start the IBM ToolsCenter Bootable Media Creator wizard.

2. From the Welcome to the IBM ToolsCenter Bootable Media Creator page, type a description in the **Descriptive name** field. The descriptive text is displayed on the screen when you use the bootable media.

3. Click **Next**.

4. From the Media Purpose page, select the following fields:

Updates (optional)
> Includes device driver updates and the UpdateXpress System Pack Installer on the IBM ServerGuide Setup and Installation CD.
>
> **Notes:**
> - If you create bootable media on a system that is of the same machine type as the target system or a system that is in the supported systems list, the machine type is automatically highlighted and selected.
> - IBM Intellistation Pro is not supported.

Include firmware updates in the bootable media
> This option is displayed only if you have selected **Deployment**. By default, the IBM ServerGuide Setup and Installation CD includes only device driver updates. Select this checkbox to include firmware updates on the CD. The firmware updates are deployed after the operating system deployment is complete.

Deployment
> Select this check box to create the IBM ServerGuide Setup and Installation CD.
>
> **Note:** This option is only displayed on Windows platforms.
>
> **Deploy Windows 64 bit**
> > Select this radio button to deploy 64–bit versions of Windows
>
> **Deploy Windows 32 bit**
> > Select this radio button to deploy 32–bit versions of Windows

5. Click **Next** to proceed to the Acquire Location page.

6. From the Acquire Location page, complete these fields and then click **Next**:

Check the IBM website
> Select this radio button to acquire the latest updates from the IBM website before creating the bootable media.
>
> **UpdateXpress System Pack (UXSPs)**
> > Select this radio button to acquire complete UpdateXpress System Packs. UpdateXpress System Pack contains an integration-tested bundle of online, firmware updates for each System x and BladeCenter system. This is the preferred method to obtain updates.
>
> **Latest available individual updates**
> > Select this radio button to acquire individual updates.

Look in a local directory
> Select this radio button to acquire updates, tools, and boot environment from the local system. Type the fully qualified path and file name in the given field, or click the **Browse** button to select the file.

7. From the HTTP Proxy page, complete these fields:

Do not use proxy

> Select this radio button if you do not require an HTTP proxy server to connect to the Web.

Use proxy

> Select this radio button if you require an HTTP proxy server to connect to the Web, and then complete these fields:

> **Host name**
>
> > The host name, IP address, or domain name of the HTTP proxy server.

> **Port**   The port number for the HTTP proxy server.

> **Authenticate using the following credentials**
>
> > Select this check box if credentials must be specified to authenticate to the HTTP proxy server, and then complete these fields:

> > **User name**
> >
> > > The user name to use for authenticating to the HTTP proxy server.

> > **Password**
> >
> > > The password for the specified user name.

> **Test Connection**
>
> > Click this button to test the connection to the specified HTTP proxy server.

8. Click **Next** to go to the Targeted Systems page.
9. From the Targeted Systems page, select one or more machine types that you want the bootable media to support and then click **Next**. Use the **Update List** button to update the system support list for all functions.

   Use the **Rollback** button to roll back to the original system support lists bundled with each function.

   Tips:
   - Click **Select All** to select all machine types or click **Unselect All** to unselect all machine types.
   - You can manually add or delete machine types for IBM systems using the **Add** or **Delete** button.
   - If a function is not supported by a system, selection of the unsupported function is disabled for that system.
   - To add support for new systems or updates released after the current version of the Bootable Media Creator, use **Update List** to update the support list from the IBM website.

10. From the Media Format page, perform one of the following tasks to specify the format to use for the bootable media:
    - To create an ISO image, complete these fields:

      Device type

      > Select CD/DVD.

      Write to image file

      > Select this radio button, and then type the fully qualified path and file name for the ISO image in the given field.

    - To create a CD or DVD, complete these fields:

Device type
> Select CD/DVD.

Write directly to device
> Select this radio button to write the bootable medium to the specified CD or DVD drive.

Disk Select the letter associated with the CD or DVD drive for Windows (such as E:) or the device name for Linux (such as /dev/hdb).

11. From the Confirm Choices page, review the configuration information you provided for creating the IBM ServerGuide Setup and Installation CD.

12. Optional: Click **Save** to save this configuration information to a file, which you can import into this tool to recreate this IBM ServerGuide Setup and Installation CD at a later time.

13. Click **Next**.

    The Creation Progress page is displayed. IBM ToolsCenter Bootable Media Creator acquires the IBM ServerGuide package and UpdateXpress System Pack updates if you specified them, and then creates the IBM ServerGuide Setup and Installation CD or CD image. A progress bar indicates that the acquisition and creation are in progress and shows the percentage of progress completed.

14. When the bootable media is complete, click **Next**.

15. Click **Finish**.

Results

To use the completed CD, insert it in the target server, boot the server, and follow the on-screen prompts.

Updating existing bootable media

You can update bootable images on writable media using the image's configuration file created by IBM ToolsCenter Bootable Media Creator.

About this task

Perform these steps to update existing bootable media:

Procedure

1. From a command line, enter the command name with no options to start the IBM ToolsCenter Bootable Media Creator wizard. The command name depends on the operating system from which you are running the command. The following table lists the name of the command for each supported operating system.

   Tip: You can also start the wizard from the command line by entering the command name without any options.

Operating system	Command name
Windows	ibm_utl_bomc_*v.r.m*_windows_i386.exe
Red Hat Enterprise Linux 3.0	ibm_utl_bomc_*v.r.m*_rhel3_i386.bin
Red Hat Enterprise Linux 3.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel3_x86-64.bin
Red Hat Enterprise Linux 4.0	ibm_utl_bomc_*v.r.m*_rhel4_i386.bin

Operating system	Command name
Red Hat Enterprise Linux 4.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel4_x86-64.bin
Red Hat Enterprise Linux 5.0	ibm_utl_bomc_*v.r.m*_rhel5_i386.bin
Red Hat Enterprise Linux 5.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel5_x86-64.bin
Red Hat Enterprise Linux 6.0	ibm_utl_bomc_*v.r.m*_rhel6_i386.bin
Red Had Enterprise Linux 6.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel6_x86-64.bin
SUSE Linux Enterprise Server 9	ibm_utl_bomc_*v.r.m*_sles9_i386.bin
SUSE Linux Enterprise Server 9 64-bit	ibm_utl_bomc_*v.r.m*_sles9_x86-64.bin
SUSE Linux Enterprise Server 10	ibm_utl_bomc_*v.r.m*_sles10_i386.bin
SUSE Linux Enterprise Server 10 64-bit	ibm_utl_bomc_*v.r.m*_sles10_x86-64.bin
SUSE Linux Enterprise Server 11	ibm_utl_bomc_*v.r.m*_sles11_i386.bin
SUSE Linux Enterprise Server 11 64-bit	ibm_utl_bomc_*v.r.m*_sles11_x86-64.bin

2. From the Welcome to the IBM ToolsCenter Bootable Media Creator page, type a description in the **Descriptive name** field. The descriptive text is displayed on the screen when you use the bootable media.

3. Click **Load in a previously saved configuration** to load settings that are defined in a specific configuration file.

4. Click **Next**

5. Type the fully qualified path and file name for the configuration file, and then click **Next**.

6. From the Media Purpose page, complete these fields and then click **Next**:

   Updates
   > Select this check box to bundle UpdateXpress System Pack Installer and firmware updates for the targeted systems on the bootable media.

   > **Notes:**
   > - If you create bootable media on a system that is of the same machine type as the target system or a system that is in the supported systems list, the machine type is automatically highlighted and selected.
   > - Updating firmware is performed using UpdateXpress System Pack Installer.
   > - This function updates only firmware. Device drivers must be updated separately.
   > - IBM Intellistation Pro is not supported.

   Include firmware updates in the bootable media
   > This option is displayed only if you have selected **Deployment**. By default, the IBM ServerGuide Setup and Installation CD includes only device driver updates. Select this checkbox to include firmware updates on the CD. The firmware updates are deployed after the operating system deployment is complete.

   Diagnostics
   > Select this check box to bundle Dynamic System Analysis on the bootable media. This option is disabled if you select **Deployment**.

   Deployment
   > Select this check box to create an IBM ServerGuide Setup and

Installation CD. This option is disabled if you select **Diagnostics**. Selecting this option disables the following options:

> **Diagnostics**
> **Enable Task Autorun**
> **Create the media to use tui mode**

> **Note:** This option is only displayed on Windows platforms.

Enable Task AutoRun
> Select this check box to automatically start the selected tool, either UpdateXpress System Pack Installer or Dynamic System Analysis, when you boot from the media. This option cannot be selected with **Deployment**.

Create media to use a text-based (non-graphical) user interface
> Select this check box to start the tools in a text user interface. If this checkbox is not selected, the tools start in a graphical user interface. This option cannot be selected with **Deployment**.

7. From the Acquire Location page, complete these fields and then click **Next**:

Check the IBM website
> Select this radio button to acquire the latest updates from the IBM website before creating the bootable media.

> > **UpdateXpress System Pack (UXSPs)**
> > > Select this radio button to acquire complete UpdateXpress System Packs. UpdateXpress System Pack contains an integration-tested bundle of online, firmware updates for each System x and BladeCenter system. This is the preferred method to obtain updates.

> > **Latest available individual updates**
> > > Select this radio button to acquire individual updates.

Look in a local directory
> Select this radio button to acquire updates, tools, and boot environment from the local system. Type the fully qualified path and file name in the given field, or click the **Browse** button to select the file.

8. From the Targeted Systems page, select one or more machine types that you want the bootable media to support and then click **Next**. Use the **Update List** button to update the system support list for all functions.

Use the **Rollback** button to roll back to the original system support lists bundled with each function.

Tips:
- Click **Select All** to select all machine types or click **Unselect All** to unselect all machine types.
- You can manually add or delete machine types for IBM systems using the **Add** or **Delete** button.
- If a function is not supported by a system, selection of the unsupported function is disabled for that system.
- To add support for new systems or updates released after the current version of the Bootable Media Creator, use **Update List** to update the support list from the IBM website.

9. From the Target Directory page, complete the following fields:

Directory

Specify the directory where you want to store the downloaded files.

10. From the Targeted Systems page, select one or more machine types that you want the bootable media to support and then click **Next**. Use the **Update List** button to update the system support list for all functions.

Use the **Rollback** button to roll back to the original system support lists bundled with each function.

Tips:

- Click **Select All** to select all machine types or click **Unselect All** to unselect all machine types.
- You can manually add or delete machine types for IBM systems using the **Add** or **Delete** button.
- If a function is not supported by a system, selection of the unsupported function is disabled for that system.
- To add support for new systems or updates released after the current version of the Bootable Media Creator, use **Update List** to update the support list from the IBM website.

11. From the HTTP Proxy page, complete these fields:

Do not use proxy

Select this radio button if you do not require an HTTP proxy server to connect to the Web.

Use proxy

Select this radio button if you require an HTTP proxy server to connect to the Web, and then complete these fields:

Host name

The host name, IP address, or domain name of the HTTP proxy server.

Port   The port number for the HTTP proxy server.

Authenticate using the following credentials

Select this check box if credentials must be specified to authenticate to the HTTP proxy server, and then complete these fields:

User name

The user name to use for authenticating to the HTTP proxy server.

Password

The password for the specified user name.

Test Connection

Click this button to test the connection to the specified HTTP proxy server.

12. From the Media Format page, perform one of the following tasks to specify the format to use for the bootable media:

- To create an ISO image, complete these fields:

Device type

Select CD/DVD.

Write to image file

Select this radio button, and then type the fully qualified path and file name for the ISO image in the given field.

- To create a CD or DVD, complete these fields:

Device type
> Select CD/DVD.

Write directly to device
> Select this radio button to write the bootable medium to the
> specified CD or DVD drive.

Disk   Select the letter associated with the CD or DVD drive for Windows
(such as E:) or the device name for Linux (such as /dev/hdb).

- To create a USB flash drive, complete these fields:

Device type
> Select USB.

Write directly to device
> Select this radio button to write the bootable medium to the
> specified USB flash drive.

Disk   Select the letter associated with the USB flash drive for Windows
(such as E:) or the device name for Linux (such as /dev/hdb).

- To create PXE files, complete these fields:

Device type
> Select PXE.

PXE TFTP server address:
> Specify the IP address of the TFTP server to use for PXE boot.

Directory to write PXE files to:
> The fully qualified path or click **Browse** to select the path where
> you want to write the PXE files in the given field.

13. Click **Next**. If you selected only UXSPI functions from the Media Purpose
    page, the Unattended Mode Configuration page is displayed. Complete the
    following fields:

Do not use unattended mode
> Select this radio button to disable unattended mode.

Use unattended mode
> Select this radio button to enable unattended updates. If you select
> this option you must complete the following additional fields:

> **Upload log files to:**
>> Use this drop down menu to choose where to place the log
>> files when unattended updates are complete. Your choices are:
>> - TFTP Server
>> - FTP Server
>> - NFS Share
>> - Samba Server
>> - USB Drive
>>
>> **Note:**
>>
>> a. To upload log files to a TFTP, FTP, or Samba server, or to
>>   an NFS share, the directory to which the files are to be
>>   uploaded must already exist (it will not be created as part
>>   of the upload process), and it must allow anonymous
>>   access.
>> b. To upload the unattended log package to the specified
>>   location, you must ensure that you can perform the

following actions, if you are using the SLES 10 x86–64 operating system environment:

- For Samba shares: `mount -t cifs //$address/$directory $mount_point -o user=anonymous, password=anonymous`
- For NFS shares: `mount -t nfs $address:$directory $mount_point`
- For FTP and TFTP uploads, ensure that the local file can be uploaded to the address and directory specified in the **FTP** or **TFTP** command.

Server Address
The address of the server to which you want to load the log files.

Save to directory
Indicates the directory where the logs are saved.

14. From the Confirm Choices page, review the configuration information you provided for creating the bootable media.
15. Optional: Click **Save** to save this configuration information to a file, which you can import into this tool to recreate this bootable media at a later time.
16. Click **Next**.

    The Creation Progress page is displayed. IBM ToolsCenter Bootable Media Creator acquires UpdateXpress System Pack updates if appropriate, Dynamic System Analysis if specified, and then creates the bootable media. A progress bar indicates that the acquisition and creation are in progress and shows the percentage of progress completed.
17. When the bootable media is complete, click **Next**.
18. Click **Finish**.

Creating a PXE chain

You can use the `pxechain.com` module available in syslinux 3.72 and higher to create a global boot menu that allows you to choose which of multiple PXE images are used for boot. This allows you to keep multiple PXE images in `tftproot` directory, rather than manually adding and removing them as needed.

About this task

The Bootable Media Creator creates a PXE boot loader file, `pxelinux.0`, that is not compatible with the generic PXE boot loader file of the same name. You cannot, therefore, use the same PXE boot loader file to boot both the image created by the Bootable Media Creator and any other PXE image. By following these steps, you can create a menu that allows you to select from a list of available boot loader images.

Procedure

1. Download syslinux 3.72 or higher from http://www.kernel.org/pub/linux/utils/boot/syslinux/.
2. Copy the files `modules/pxechain.com` and `core/pxelinux.0` to your `tftproot` directory.
3. Create a subdirectory in your `tftproot` directory named `ibm`, and put the PXE files created by the Bootable Media Creator in this subdirectory.
4. Create a subdirectory in your `tftproot` directory named `pxelinux.cfg`.

5. In the `tftproot/pxelinux.cfg` directory, create a file named `default`. This sample `default` file will include the PXE image created by Bootable Media Creator, and indicates where to add additional PXE images.

```
prompt 0
default ibmchain
timeout 100
label ibmchain
kernel pxechain.com
append ::ibm/pxelinux.0
label additioal_pxe_images
kernel pxechain.com
append ::additioal_pxe_images/pxelinux.0
```

Results

When you have completed these steps, your `tftproot` directory should resemble this example:

```
|-- ibm
|   |-- img2a
|   |-- img3a
|   |-- pxelinux.0       <- IBM's modified pxelinux.0
|   |-- pxelinux.cfg
|   |   `-- PXE_test    <- The default file for Linux Scripting Toolkit
created PXE Image
|   |-- tc.zip
|   `-- tcrootfs
|-- your_other_pxe
|   |-- vmlinux
|   |-- initrd.gz
|   |-- pxelinux.0       <- your_other_pxe's pxelinux.0
|   `-- pxelinux.cfg
|       `-- default      <- your_other_pxe's default
|-- pxechain.com         <- pxechain.com from tc.zip (Step 1)
|-- pxelinux.0           <- pxelinux.0 from syslinux 3.72 (or later)
`-- pxelinux.cfg
    `-- default          <- default file for pxechain.com
```

You can now select from multiple PXE images in the same `tftproot` directory.

Chapter 4. Using bootable media

The Menu program runs when the bootable media that was created using IBM ToolsCenter Bootable Media Creator is booted from an IBM system.

About this task

You can run the Menu program from a graphical user interface or from a text user interface.

Procedure

1. To use the bootable ISO image, you must burn the ISO image to a CD or DVD or mount the ISO image to a server using the virtual media function in BladeCenter Advanced Management Module (AMM), IMM, or Remote Supervisor Adapter (RSA) II card, or other equivalent function.

2. To use the bootable PXE files, you must perform these tasks:

   a. Copy the PXE files (pxelinux.cfg/default, img3a, img2a, pxelinux.0, tcrootfs, bsb1.lss, bsb.msg and tc.zip) to the content directory on the TFTP server.

   b. Configure the PXE boot server to use pxelinux.0 as the boot file.

   c. Ensure PXE boot server and Trivial File Transport Protocol (TFTP) boot server are up and running.

3. If the device from which you want to boot is not first or second in the boot order, press **F12** to select that device.

4. Select a tool from the Menu program to manually start a tool if the **--autorun** option was not specified when the bootable media was created. When the selected tool completes, Menu program graphic user interface or interactive text-user interface is displayed.

5. Click **Exit** to close the Menu program. The targeted system shuts down if it is PXE booting or performing an unattended update. Otherwise it reboots.

Booting from bootable media using the graphical interface

The Menu program runs when the IBM ToolsCenter for System x and BladeCenter bootable media is booted. The graphical version of the Menu program runs in interactive mode (from which you can select the function that you want to perform) or unattended mode (for example, if you selected to automatically run UpdateXpress System Pack Installer when the bootable media is booted).

About this task

Perform these steps to perform updates and diagnostics using bootable media. To deploy a supported Windows operating system on IBM System x and BladeCenter servers, boot the target server from an IBM ServerGuide Setup and Installation CD and follow the on-screen prompts.

Procedure

1. If the graphic interface mode was selected when the bootable media was created, then the IBM ToolsCenter Customized Media utility starts automatically when you boot from the bootable media. The Welcome page

displays, showing the descriptive name of the bootable media, a list of the targeted machines, and a list of functions that you can perform.

2. Perform these steps to install updates:

   a. From the Welcome page, click **Updates**.

   b. On the Updates page, click the **click here to start update** link. The UpdateXpress System Pack Installer is displayed.

   c. Select one or more updates that you want to install.

3. Perform these steps to perform diagnostics:

   a. From the Welcome page, click **Diagnostics**.

   b. On the Diagnostics page, click the **click here to start diagnostics** link. The diagnostics page is displayed.

   c. On the Diagnostics page, select **click here to start diagnostics (GUI)** to start the graphical user interface, or **click here to start diagnostics (CLI)** to start the diagnostic command line interface.

   d. Use the Dynamic System Analysis tool to perform diagnostics.

Booting from bootable media using the text interface

The Menu program runs when the IBM ToolsCenter for System x and BladeCenter bootable media is booted. The text version of the Menu program runs in interactive mode (from which you can select the function that you want to perform) or unattended mode (for example, if you selected to automatically run UpdateXpress System Pack Installer when the bootable media is booted). The menu program supports only Update or Diagnostic modes.

About this task

Perform these steps to perform updates or diagnostics using bootable media:

Procedure

1. If **Create media to use a text-based (no-graphical) user interface** was selected when the bootable media was created, then the IBM ToolsCenter Customized Media utility starts automatically when you boot from the bootable media. The Welcome page displays with a list of functions that you can perform.

2. Perform these steps to install updates:

   a. On the Welcome page, enter **1** and then enter **y** to select the Updates function. The UpdateXpress System Pack Installer utility is displayed.

   b. Select one or more updates that you want to install.

   Note: Updates start to install when the **Automatic update countdown** reaches 0.

3. Perform these steps to start diagnostics:

   a. On the Welcome page, enter **2** and then enter **y** to select the Diagnostics function. The Dynamic System Analysis tool is displayed.

   b. Use the Dynamic System Analysis tool to perform diagnostics on the system.

Chapter 5. Troubleshooting and support

Use this section to troubleshoot and resolve problems with IBM ToolsCenter Bootable Media Creator.

For solutions to problems that other customers have encountered, see the IBM System x Forum customer forum at www.ibm.com/developerworks/forums/forum.jspa?forumID=740.

Limitations and problems

The following limitations and known problems are applicable to IBM ToolsCenter Bootable Media Creator.

Greeting artwork does not show when booting a UEFI platform.
> When loading the bootable environment on a non-Unified Extensible Firmware Interface (UEFI) platform, the greeting artwork is displayed with the "Starting IBM ToolsCenter Customized Media (*version*)" message. When loading the bootable environment on a UEFI platform (for example., HS22, x3650 M2, x3550 M2, andiDataPlex dx360 M2), only the message is displayed.

You must have access to the Internet to acquire updates and bootable environment.
> IBM ToolsCenter Bootable Media Creator can acquire updates and the bootable environment from IBM. Access to the Internet is required to acquire those files. You might need to disable the firewall to access the website. IBM ToolsCenter Bootable Media Creator uses port 443 for HTTPS and port 80 for HTTP.

For Serial over LAN (SOL) support, the serial console argument must be specified before the `tty1` console argument.
> When you specify a serial console argument (`ttyS0` or `ttyS1`) and the `tty1` console argument using the **--kernel-args** option, you must specify the serial console first, for example:
>
> `--kernel-args="vga=0x317 root=/dev/ram0 ramdisk_size=100000 media_boot=yes `**`console=ttyS1,19200 console=tty1`**`"`

You cannot assign multiple static IP addresses
> You can assign a custom static IP address to only one NIC in a system. Options are provided to specify IP addresses sequentially beginning with the default value of 192.168.0.100 or sequentially beginning with a static IP address that you specify. See the kernel-args parameter for more information.

iDataPlex dx360 M2 (machine type 7321) system might fail to boot from ToolsCenter USB key
> This problem can occur when a SATA drive is attached to the onboard storage controller and is configured as an `IDE` interface in `Compatibility` mode in the system BIOS. This is a current limitation.

iDataPlex dx360 M2 (machine type 7321) system might fail to boot from ToolsCenter USB key the second time
> When using the bootable USB key created by IBM Bootable Media Creator to boot the iDataPlex dx360 M2 (machine type 7321), if you exit from the ToolsCenter program, reboot the system immediately, and attempt to boot

from the same USB key again. The system might fail to boot from USB key, with the message: `Boot Fail. Press Enter to Continue`, and revert back to the boot device selection menu.

UXSP packages may not be available for newly-released servers
When you are using **creating update media** for newly-released IBM systems, the creation will fail if no UXSP package is available for these systems on the IBM website. In this case, select **Acquire latest individual updates** to acquire any available updates that have not yet been included in a UXSP.

Some functions might not work properly when loading a configuration generated by a different distribution of the Bootable Media Creator
Some functions of the Bootable Media Creator might not work properly when loading a configuration created using the Bootable Media Creator for Linux using Bootable Media Creator for Windows, or vice versa.

Listing all available update packages for tools from the IBM website can take more than 15 minutes
Additional update packages for tools may be required to perform the selected tasks such as updating, diagnostics and deployment on some IBM systems. If you specify acquiring packages for multiple machine types from the IBM website when creating bootable media, it can take more than 15 minutes to list all the available update packages. If you select more machine types and tools, it can take even longer to list the available packages.

IBM eServer xSeries 336, 346 and 236 systems fail to boot from USB key
This problem can occur when booting these systems from the created bootable USB key. They might fail to boot with the error message: `Could not find kernel image`. To fix the problem, try defragmenting the USB key using the Windows defragment tool, then try booting from the key again.

If the symptoms persist, perform a full format of the USB key, then rebuild the image using the Bootable Media Creator.

CD-RW bootable media fails to deploy Windows operating systems
This problem can occur when deploying Windows operating systems from CD-RW bootable media. The deployment can fail with the error message: `There was an error copying files`.

To avoid this problem, use CD-R or DVD-R(W) media.

Deployment media creation fails when the path to the working directory is long
When creating an IBM ServerGuide Setup and Installation CD using the Microsoft Windows Automated Installation Kit for Windows 7 (AIK 2.0) or the Microsoft OEM Pre-installation Kit 2.0, the path to the specified *workingdir* must be less than 76 characters.

No operating systems are selectable in ServerGuide
You cannot continue past the operating system selection screen in ServerGuide without selecting an operating system. This condition occurs when the ServerGuide bootable image was created for a different architecture than the one on the target system. You must use the **arch** parameter to specify the architecture to be supported when creating a ServerGuide image.

CD Media will not eject when using USB CD-ROM on System x3850 X5/x3950 X5 (machine types 7145, 7146)
This problem can occur when booting these systems from the created

bootable CD media using a USB CD-ROM. The media might fail to eject automatically when exiting ToolsCenter, even when using the default configuration setting.

If the problem persists, power the system off, then power the system back on and manually eject the media during the early portion of the boot process.

Linux platforms require libcurl v7.15 or higher for image creation phase
To perform acquisition and connection tests in an IPv6 environment on supported Linux platforms, you must ensure that the libcurl file transfer utility is version 7.15 or higher.

Mixed IP address standards not supported
Bootable Media Creator 9.20 supports both IPv4 and IPv6 addressing. However, for file transfers by FTP or TFTP, **all** of the addresses you use must be either IPv4 or IPv6. Mixing IPv4 and IPv6 addresses is not supported for this function.

Some systems cannot recognize some USB keys
Some IBM systems do not recognize SanDisk SDCZ36 4 and 8 Gb USB keys. If you experience difficulty using one of these keys, try a different type of USB key.

No hints for memtest when creating bootable media with both DSA and UXSPI for Serial Over LAN
When using bootable media that includes both DSA and UXSPI for a Serial Over LAN deployment, no hints for the user to input memtest are displayed on the Serial Over LAN console.

To avoid this problem, create separate images for DSA and UXSPI.

Using CTRL+C to halt execution of UXSPI in TUI mode halts further input
When running UXSPI in a bootable environment in TUI mode, using CTRL+C to stop execution prevents further input. The tool returns to the Home menu, but the screen will be corrupted and further input will fail.

CD creation might fail when there are more than 15 SCSI controllers in the system
Creation of a CD might fail if more than 15 SCSI controllers are enabled on the burning system. This is caused by a limitation of the **cdrecord** utility used by Bootable Media Creator to burn the CD.

To avoid this problem, disable some of the SCSI storage devices to decrease the number of SCSI controllers recognized by the **cdrecord** utility.

64-bit Linux requires compat-libstdc++
To run 32-bit binaries and utilities, including Bootable Media Creator, 64-bit Linux operating systems require the compatibility library `compat-libstdc++`. You can use the following command to determine whether this library is installed:

`rpm -qa | grep compat-libstdc++-296`

Updating pDSA in a bootable environment requires >1GB of memory
Updating pDSA in a bootable environment using USXPI might fail if the target system does not have more than 1GB of memory. To avoid this problem, the target system should have at least 2GB of memory.

PXE boot may fail if the network connection is slow
A slow or busy network connection can cause PXE boot to fail. If your PXE boot fails due to a slow network connection, retry the process.

System x3755 with iBMC cannot boot from USB

The System x3755 with iBMC cannot boot from a BoMC-created USB image. To work around this issue, use a different method to deliver the BoMC boot image.

Workarounds

The following workarounds are applicable to IBM ToolsCenter Bootable Media Creator

BoMC fails to connect with the SOL console on Angelshark

Root Cause: COM2 on Angelshark does not support the hardware flow control, which causes the SOL function to fail.

Workaround: Use AMM directly not SOL.

Action Plan: Based on the IMM2 team's feedback, support for hardware flow control for COM2 is planned for Angelshark in 3Q/LFC.

The keyboard does not work when confirming to exit ToolsCenter program.

After booting a system with bootable media created using IBM ToolsCenter Bootable Media Creator, when you select to exit the ToolsCenter program, you will be prompted to confirm the exit action. The keyboard cannot be used to confirm the exit action; however, you can use the mouse.

Workaround: Use the mouse to confirm the exit action, or create the media to run in TUI mode.

cygwin1.dll conflict

IBM ToolsCenter Bootable Media Creator ships the cygwin1.dll (version 1.5.24, renamed to cygwinz.dll), which is required by the mkisofs.exe and cdrecord.exe utilities. The cygwin DLL does not support multiple versions running a the same time. You must exit all other applications that depend on cygwin1.dll before running IBM ToolsCenter Bootable Media Creator on a Windows System.

IBM ToolsCenter Bootable Media Creator might fail to burn CD or DVD if it runs on RHEL3 with an IDE CD-ROM or IDE DVD-ROM

Add hd*x*=ide-scsi to the boot loader configuration file (for example, /etc/lilo.conf for LILO or /boot/grub /menu.lst for GRUB), where hd*x* is either hda, hdb, hdc or hdd, depending on where your CD or DVD drive is located.

USB flash drives that are used by Linux are not recognized by Windows

To enable Windows to recognize the USB flash drive so that it can be used by IBM ToolsCenter Bootable Media Creator on a Windows system, format the USB flash drive on a Linux system to FAT32 file format using the the **mkdosfs** utility (for example, mkdosfs -I -F 32 /dev/sdb).

Failure when burning created ISO files to CD/DVD, or created CD/DVD fails to boot If you are unable to burn created ISO files to CD/DVD media, or if the CD/DVD you have created fails to boot, please try using alternative media writing software, or using a different brand and type of media.

BladeCenter HS22 fails to boot from SanDisk 4GB bootable USB key

When using the SanDisk 4GB bootable USB key created by IBM Bootable

Media Creator to boot HS22 (machine type 7870), the system might boot directly into the OS environment installed in the Hard Disk Drive but not boot into the USB key.

Workaround: Update the uEFI firmware or use a Lexar USB key or a bootable CD.

Emulex 10GB CNA firmware updates are not supported from Updates bootable media Emulex 10GB CNA firmware updates such as `elx_fw_nic_cna-f2.101.411.2_linux_32-64` are not supported from Updates bootable media created by Bootable Media Creator.

Workaround: Install these updates offline using the bootable iso file from: http://www.ibm.com/systems/support/supportsite.wss/ docdisplay?lndocid=MIGR-5083288&brandind=5000008.

USB key automatically mounts in noexec mode on SLES 10 sp4
As a security measure, USB keys can be mounted in **noexec** mode, which prevents executable files on the key from running. This will prevent you from using the BoMC binary, even after using **chmod** to change permissions.

Workaround: Copy the binary to the hard drive of the system, use **chmod** to give it proper permissions, and execute from the hard drive.

IBM ToolsCenter Bootable Media Creator log file

The IBM ToolsCenter Bootable Media Creator log file is in %SystemDrive%\ IBM_Support\bomc920.log (on Windows) or /var/log/IBM_Support/bomc920.log (on Linux). New log information is appended into bomc920.log.

Each log record includes the version, command line arguments, program runtime data, and detailed trouble shooting information.

Getting help and technical assistance

Use this information to locate technical assistance for your IBM System x and BladeCenter tools.

About this task

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This section contains information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your system, and whom to call for service, if it is necessary.

Before you call

Use this information before you call Service and Support and report a problem.

About this task

Before you call, make sure that you have taken these steps to try to solve the problem yourself:
- Ensure that you have the latest version of the tool installed.
- Check all cables to make sure that they are connected.

- Check the power switches to make sure that the system and any optional devices are turned on.
- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system.
- Go to the IBM support website at www.ibm.com/systems/support/ to check for technical information, hints, tips, and new device drivers.
- Use an IBM discussion forum on the IBM website to ask questions.

You can solve many problems without outside assistance by following the troubleshooting procedures that IBM provides in the online help or in the documentation that is provided with your IBM product. The documentation that comes with IBM systems also describes the diagnostic tests that you can perform. Most systems, operating systems, and programs come with documentation that contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

Using the documentation

Use this information for locating detailed information on using the documentation.

About this task

Information about your IBM system and preinstalled software, if any, or optional device is available in the documentation that comes with the product. That documentation can include information centers, online documents, printed documents, readme files, and help files. See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to the IBM support website at www.ibm.com/systems/support/ and follow the instructions. Also, some documents are available through the IBM Publications Center website at www.ibm.com/shop/publications/order/. Documentation for IBM System x and BladeCenter tools are available in the IBM ToolsCenter website at www.ibm.com/shop/publications/order/.

Getting help and information from the World Wide Web

Use this information to find the latest information about IBM systems, optional devices, services, and support.

About this task

On the World Wide Web, the IBM website has up-to-date information about IBM systems, optional devices, services, tools, and support. The address for IBM System x information is www.ibm.com/systems/x/. The address for IBM BladeCenter information is www.ibm.com/systems/bladecenter/. The address for IBM IntelliStation® information is www.ibm.com/intellistation/.

You can find service information for IBM systems and optional devices at www.ibm.com/systems/support/.

Software service and support

Use this information to contact IBM service and support with questions about your IBM System x and BladeCenter tools.

About this task

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with System x servers, BladeCenter products, IntelliStation workstations, and appliances. For information about which products are supported by Support Line in your country or region, see www.ibm.com/services/sl/products/.

For more information about Support Line and other IBM services, see www.ibm.com/services/, or see www.ibm.com/planetwide/ for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

Hardware service and support

Use this contact information to order new equipment or request IBM service support.

About this task

You can receive hardware service through IBM Services or through your IBM reseller, if your reseller is authorized by IBM to provide warranty service. See www.ibm.com/planetwide/for support telephone numbers, or in the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

Appendix A. Accessibility features for IBM ToolsCenter Bootable Media Creator

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM ToolsCenter Bootable Media Creator:

- Can be operated using only the keyboard
- Communicates all information independent of color
- Supports the attachment of alternate output devices
- Provides online documentation in an accessible format
- (Microsoft® Windows® systems only) Supports interfaces commonly used by screen readers and screen magnifiers

The IBM ToolsCenter Bootable Media Creator topic collection in the IBM ToolsCenter for System x and BladeCenter information center, and its related publications, are accessibility-enabled.

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

IBM and accessibility

See the IBM Human Ability and Accessibility Center website at www.ibm.com/able for more information about the commitment that IBM has to accessibility.

Appendix B. IBM ToolsCenter Bootable Media Creator commands

IBM ToolsCenter Bootable Media Creator includes a single command that you can use to create bootable media.

How to read syntax diagrams

Review these conventions to understand how to read the syntax diagrams used in the command descriptions.

The syntax diagram consists of options and option arguments. *Options* consist of a hyphen and single letter (for example, -h) or two hyphens and multiple letters (for example, --help). Options can be followed by one or more *option arguments* (for example, as illustrated in [--cd=*volume*]).

Consider these conventions when reading syntax diagrams:
- Options that are enclosed in brackets ([]) are optional. Do not include these brackets in the command.
- Options that are enclosed in braces ({}) are required. Do not include these braces in the command.
- Options that are not enclosed in either brackets or braces are required.
- The names of options are case sensitive and must be typed exactly as shown. Options preceded by two dashes (--) must be specified in their entirety.
- The names of option arguments that require substitution by actual values are italicized.
- The pipe (|) character signifies that you choose one option or the other. For example, [a | b] indicates that you can choose either a or b, but not both. Similarly, {a | b} indicates that you must choose either a or b.
- An ellipsis (...) signifies that you can repeat the option argument on the command line.

Configuration file

Configuration information is saved in a file named **bomc.config** in the working directory and in the bootable media each time you create bootable media.

Notes:
- When you boot a system using the bootable media, the tools that are bundled on the bootable media check this configuration file to know the user-specified options, such as the **--tui**, **--timeout**, and **--latest** CLI options).
- You can create bootable media using the configuration file by copying the configuration file to the working directory, modify the settings, and then running the **bomc.exe --configfile=***working_directory***bomc.config** command.
- For security purposes, the proxy user ID and password are not saved in the configuration file.

The configuration file uses Java property file format *name=value*. The default values specified in this file are listed in the following table.

Configuration setting	Equivalent Command Line Interface (CLI) option	Default value
IBM_SYSTEM_ACQUIRE	**--no-acquire**	Yes **Tip:** Yes means the **--no-acquire** option *is not* specified. No means the **--no-acquire** option *is* specified.
IBM_SYSTEM_AUTORUN	**--autorun={uxspi | dsa | none}**	The first value specified by the `function` option.
IBM_SYSTEM_CD	**--cd**=*volume*	NULL
IBM_SYSTEM_DEPLOY_ARCHITECTURE	**--arch**=x86 | x64	x64
IBM_SYSTEM_FORCE_OVERWRITE	**--force**	No **Note:** Yes means the **--force** option *is* specified. No means the **--force** option *is not* specified.
IBM_SYSTEM_FUNCTION	**--function**=uxspi,dsa,serverguide	uxspi
IBM_SYSTEM_ISO_FILE	**--iso**=*file_name*	NULL
IBM_SYSTEM_KERNEL_ARGS	**--kernel-args**="*key=value*[*key=value*...]"	NULL
IBM_SYSTEM_LATEST	**--latest**	No
IBM_SYSTEM_MACHINETYPE	**-m** [all | {*machine_type*[,*machine_type*} | none] | **--machine-type**=[all | {*machine_type*[,*machine_type*} | none]	NULL
IBM_SYSTEM_MEDIALABEL	**--description**=*description*	Bootable media - *date*
IBM_SYSTEM_NO_FIRMWARE_UPDATE	**--no-firmware**	NULL
IBM_SYSTEM_NO_TIMESTAMP	T'here is no corresponding CLI option. This value can only be set in the bomc.config file.	By default, the unattended mode log package is named UXSPI_*mt_serialnumber _timestamp*.tar.gz . Specifying **YES** for the value of this parameter removes the timestamp from the name of the file that is uploaded: UXSPI_*mt_serialnumber*.tar.gz The default value is NO.
IBM_SYSTEM_PAUSE_ON_ERROR	T'here is no corresponding CLI option. This value can only be set in the bomc.config file.	Specifies the length of time, in seconds, to pause during upload of the unattended package in the event of an error to give the user time to respond. The default value is 60.
IBM_SYSTEM_PROXY_ADDRESS	**--proxy-address**=*address*	NULL
IBM_SYSTEM_PROXY_PASSWORD	**--proxy-password**=*password*	NULL **Note:** This password is not saved in the configuration file.
IBM_SYSTEM_PROXY_PORT	**--proxy-port**=*port*	NULL

Configuration setting	Equivalent Command Line Interface (CLI) option	Default value
IBM_SYSTEM_PROXY_USER	**--proxy-user**=*user_ID*	NULL
IBM_SYSTEM_PXE_FILE	**--pxe**=*directory*	NULL
IBM_SYSTEM_PXE_TFTP_ADDRESS	**--tftp-pxe-address**=*ip_address*	9.123.196.61
IBM_SYSTEM_TIMEOUT	**--timeout**=*seconds*	60
IBM_SYSTEM_TOOL_FILE	**-t** *file_name* | **--toolzip**=*file_name*	`ibm_utl_boot_tools-130_anyos_x86-64.zip`
IBM_SYSTEM_TUI	**--tui**	No **Note:** Yes means the **--tui** option *is* specified. No means the **--tui** option *is not* specified.
IBM_SYSTEM_UNATTENDED	**--unattended**=*protocol://address/directory*	NULL
IBM_SYSTEM_USB_KEY	**--usbkey**=*volume*	NULL
IBM_SYSTEM_WORKINGDIR	**-l** *directory* | **--local**=*directory*	The current directory from which the tool is being run.

Example

The following example shows a sample configuration file.

```
IBM_SYSTEM_MACHINETYPE=8853
IBM_SYSTEM_WORKINGDIR=D:\\workingdir
IBM_SYSTEM_TOOL_FILE=ibm_utl_boot_tools-100_anyos_x86-64.zip
IBM_SYSTEM_ACQUIRE=YES
IBM_SYSTEM_FUNCTION=uxspi
IBM_SYSTEM_ISO_FILE=NULL
IBM_SYSTEM_PXE_FILE=NULL
IBM_SYSTEM_USB_KEY=NULL
IBM_SYSTEM_CD=bootable.iso
IBM_SYSTEM_PROXY_PASSWORD=NULL
IBM_SYSTEM_PROXY_USER=NULL
IBM_SYSTEM_PROXY_PORT=NULL
IBM_SYSTEM_PROXY_ADDRESS=NULL
IBM_SYSTEM_AUTORUN=NULL
IBM_SYSTEM_TIMEOUT=60
IBM_SYSTEM_FORCE=NO
IBM_SYSTEM_LATEST=NO
IBM_SYSTEM_TUI=NO
IBM_SYSTEM_KERNEL_ARGS=NULL
IBM_SYSTEM_MEDIALABEL="Bootable Media - [time]"
```

ibm_utl_bomc_*v.r.m_distribution* - Create bootable media using the CLI (Command Line Interface)

Use the **ibm_utl_bomc_*v.r.m_distribution*** command to create bootable media for CD, DVD, ISO, PXE files or USB flash drive, where *v.r.m* is the version of IBM ToolsCenter Bootable Media Creator and *distribution* is the operating system on which IBM ToolsCenter Bootable Media Creator runs. The bootable media includes all updates from the UpdateXpress System Pack Installer directory.

Syntax

```
ibm_utl_bomc_v.r.m_distribution --help

ibm_utl_bomc_v.r.m_distribution --version

ibm_utl_bomc_v.r.m_distribution --license

ibm_utl_bomc_v.r.m_distribution --check-update

ibm_utl_bomc_v.r.m_distribution --configfile=file_name

ibm_utl_bomc_v.r.m_distribution --update-supportlist [--show-supportlist]

ibm_utl_bomc_v.r.m_distribution --rollback-supportlist [--show-supportlist]

ibm_utl_bomc_v.r.m_distribution [--description=description][--
function=uxspi | dsa | serverguide] [--vmware-esxi-update=3.5] [--cd=volume
| --iso=file_name | --pxe=directory | --usbkey=volume] [--autorun=tool]
[--machine-type=type] [--tftp-pxe-address=address] [--local=directory]
[--toolzip=file_name] [--latest] [--no-acquire] [--force] [--tui]
[--kernel-arg="options"] [--proxy-address=address --proxy-port=port]
[--proxy-user=user --proxy-password=password] [--timeout=seconds]
[--arch=x86 | x64]  [--no-firmware] [--tftp-pxe-address=ip_address]
[unattended=protocol://address/directory]
```

Description

Prerequisites:
- You must have administrator or root-equivalent operating-system privileges to use IBM ToolsCenter Bootable Media Creator.
- An Internet connection is required to download tools and updates from the IBM website.
- If you use an HTTP proxy to connect to the web, the HTTP server must support Secure Sockets Layer (SSL).

Restriction: You can run only one instance of IBM ToolsCenter Bootable Media Creator on a system at a time, whether it is started from the graphical or command-line interface. This includes instances of IBM ToolsCenter Bootable Media Creator that might be bundled in other tools, such as UpdateXpress System Pack Installer.

If you run this command with no options, the graphical interface displays.

While IBM ToolsCenter Bootable Media Creator is busy waiting for operations that take more than a few seconds to complete (such as acquiring updates or inventory collection or waiting for to finish), a series of dots (.) is displayed, about one dot for every 2 seconds.

If you do not specify bootable media option (**--cd**, **--iso**, **--pxe**, or **--usbkey**), then the updates for the specified machine type are downloaded to the specified working directory.

Tips: Consider these guidelines when using this command:
- The command name is different for each supported operating system.

- The command names are case sensitive and must be entered using lower case.
- You can specify options in any order.
- You can specify an option only once.
- (Windows only) Directory paths can be delimited using the slash (/) or backslash (\) character. If a path contains spaces, enclose the entire path in quotation marks.
- (Linux only) Directory paths must be delimited using the slash (/) character. If a path contains spaces, specify the space prefixed with the backslash (\) escape character.

Options

v.r.m_distribution
> Specifies the version and operating system on which this command is being run.

Operating system	Command name
Windows	ibm_utl_bomc_*v.r.m*_windows_i386.exe
Red Hat Enterprise Linux 3.0	ibm_utl_bomc_*v.r.m*_rhel3_i386.bin
Red Hat Enterprise Linux 3.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel3_x86-64.bin
Red Hat Enterprise Linux 4.0	ibm_utl_bomc_*v.r.m*_rhel4_i386.bin
Red Hat Enterprise Linux 4.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel4_x86-64.bin
Red Hat Enterprise Linux 5.0	ibm_utl_bomc_*v.r.m*_rhel5_i386.bin
Red Hat Enterprise Linux 5.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel5_x86-64.bin
Red Hat Enterprise Linux 6.0	ibm_utl_bomc_*v.r.m*_rhel6_i386.bin
Red Had Enterprise Linux 6.0 64-bit	ibm_utl_bomc_*v.r.m*_rhel6_x86-64.bin
SUSE Linux Enterprise Server 9	ibm_utl_bomc_*v.r.m*_sles9_i386.bin
SUSE Linux Enterprise Server 9 64-bit	ibm_utl_bomc_*v.r.m*_sles9_x86-64.bin
SUSE Linux Enterprise Server 10	ibm_utl_bomc_*v.r.m*_sles10_i386.bin
SUSE Linux Enterprise Server 10 64-bit	ibm_utl_bomc_*v.r.m*_sles10_x86-64.bin
SUSE Linux Enterprise Server 11	ibm_utl_bomc_*v.r.m*_sles11_i386.bin
SUSE Linux Enterprise Server 11 64-bit	ibm_utl_bomc_*v.r.m*_sles11_x86-64.bin

> where *v.r.m* is the version, release and modification of IBM ToolsCenter Bootable Media Creator (for example, 9.2.0).

--arch=x86 | x64
> Specifies the architecture type to be supported by the created ServerGuide image. Valid values are x86 and x64. The default value is x64.

--autorun={uxspi | dsa | none}
> Specifies the tool that will run automatically when the created bootable media boots from an IBM system. You can specify one of these tools:
> - **uxspi**: Runs UpdateXpress System Pack Installer automatically when the bootable media is booted. This is the default value.
> - **dsa**: Runs the Dynamic System Analysis tool automatically when the bootable media is booted.
> - **none**: No tool runs automatically when the bootable media is booted.
>
> **Note:** This option is not valid if the serverguide option was selected with the --function option.

--cd=_volume_

Creates a bootable CD or DVD identified by the specified volume.

(Windows only) _Volume_ specifies the volume letter where the CD or DVD is located. Include the colon character (for example, **--cd=d:**)

(Linux only) _Volume_ specifies the CD or DVD device name (for example, **--cd=/dev/cdrom**).

Attention: If the CD or DVD is read-writable, existing data will be deleted, regardless of whether the **--force** option is specified. No warning is displayed if data currently exists on the CD or DVD.

Note: You cannot combine this option with the **--iso**, **--pxe**, and **--usbkey** options.

--check-update

Checks the web for the latest version of IBM ToolsCenter Bootable Media Creator, and downloads the newer version, if available, to the directory in which this command is running.

Notes:
- IBM ToolsCenter Bootable Media Creator is ready to run after it is downloaded. It does not need to be installed.
- If **--check-update** is used in combination with other options, the other options are ignored.

--configfile=_file_name_

Retrieves option arguments from the specified configuration file (for example, **--configfile=c:\path\config.txt**).

Notes:
- You cannot combine this option with any other options.
- The specified configuration options are saved in a configuration file named **bomc.config** in the working directory and bootable media each time you create a bootable media.

--description=_description_

Specifies descriptive text that will display on the screen when you boot the target system using the created bootable media.

Note: If you do not specify descriptive text, "Bootable media - _date_" is displayed by default, where _date_ is the date that the bootable media was created.

--force

Overwrites existing data on the bootable media (ISO image, USB flash drive, or PXE files) without displaying a warning message. If this option is not specified, existing bootable media is not overwritten.

Note: Existing data on a read/writable CD or DVD is automatically overwritten, regardless of whether this option is specified.

--function=_uxspi,dsa,serverguide_

Includes the specified tools on the bootable CD, DVD, or USB flash drives. You can specify one or more of these tools, separated by a comma.

Note:

- If `dsa` is selected, the bootable media will contain a stand-alone memory test utility that will not be run by default.
- The `serverguide` option is supported for Windows only.
- You cannot combine the `dsa` and `serverguide` options.

-h | -? | --help
    Displays detailed information about the command, including the syntax, a description of the command, a description of the options, error codes, and examples.

--iso=*file_name*
    Creates a bootable ISO 9660 file with the specified file name (for example, `--iso=bios.iso`).

    Notes:

- The specified file name must end in "iso" (for example, `bios.iso`).
- By default, the ISO file is created in the working directory, specified by the **--local** option. To create the file in a different directory, specify the path and file name (for example, `c:\bios.iso` or `..\bios.iso`).
- You cannot combine this option with the **--cd**, **--pxe**, and **--usbkey** options.

--kernel-args="*key=value***[** *key=value***...]"**
    Appends the specified kernel arguments to the boot loader configuration file, such as img1a.cfg, or pxelinux.cfg. For example, for Serial Over LAN (SOL) support specify `--kernel-args="console=ttyS1,19200 console=tty1"`.

    Notes:

- This option is not valid when **serverguide** is selected as the **function** option.
- The kernel options are in addition to other options that are already specified in the bootable media itself.
- Enclose the key-value pairs in quotation marks.
- Separate the key-value pairs using a space.
- When you specify a serial console argument (`ttyS0` or `ttyS1`) and the `tty1` console argument using the **--kernel-args** option, you must specify the serial console first.

    Note: Using the ipstatic and ipstaticv6 options

    The **ipstatic** optional kernel parameter is used to assign IPv4 addresses to NICs. If you use the **ipstatic** option be aware of the following limitations:

- If you do *not* specify an **ipstatic** or **ipstaticv6** kernel argument, IP addresses will be assigned to all NICs using DHCP.
- If you specify `ipstatic=auto`, IP addresses will be assigned to all NICs sequentially, beginning with 192.168.0.100 and adding addresses incrementally until reaching 192.168.0.255.
- You can specify the IP address of a single NIC explicitly: `ipstatic=eth0;192.168.0.125:255.255.255.0:192.168.0.1`. This will set one NIC to the specified address. Note that for NIC firmware updates to succeed, the NICs must be configured with an IP address. Therefore, if you use this option and are performing firmware updates, only the NIC specified in the argument (in this example, eth0) will succeed. Firmware updates for all of the other NICs in the system will fail.
- You can specify a starting IP address and allow the `auto` parameter to assign IP addresses sequentially beginning with that address, as shown below.

```
ipstatic=eth0;192.168.0.125:255.255.255.0:192.168.0.1;auto
```
- If you specify a static IPv4 address when creating a PXE image, the boot will fail as this will force an address reassignment, which will cause the connection between the target server and the PXE server to be lost.

The **ipstaticv6** optional kernel parameter is used to assign IPv6 addresses to NICs. If you use the **ipstaticv6** option be aware of the following limitations:

- If you do *not* specify an **ipstatic** or **ipstaticv6** kernel argument, IP addresses will be assigned to all NICs using DHCP.
- If you specify `ipstaticv6=auto`, IP addresses will be assigned to all NICs sequentially, beginning with adapter *eth0* and 2001::1234:abcd/64 and adding addresses incrementally. That is, *eth1* will receive address 2001::1234:abce/64, *eth2* will receive address 2001::1234:abcf/64, and so on.
- You can specify the IPv6 address of a single NIC explicitly: `ipstaticv6=eth0;2001::1234:abcd/64`. This will set one NIC to the specified address. Note that in order for NIC firmware updates to succeed, the NICs must be configured with an IP address. Therefore, if you use this option and are performing firmware updates, only the NIC specified in the argument (in this example, eth0) will succeed. Firmware updates for all of the other NICs in the system will fail.
- You can specify a starting IPv6 address and allow the `auto` parameter to assign IP addresses sequentially beginning with that address, as shown below.
  ```
  ipstatic=eth0;2001::1234:abcd/64;auto
  ```
- If you specify an IPv6 address with no postfix, the postfix will be set to 0 by default.
- If you specify an IPv6 static address when creating a PXE image, the boot might fail, as there is no remote boot specification for IPv6 equivalent to PXE.

--latest
> Acquires the latest individual updates from the IBM website and places the files in the working directory specified by the **--local** option. If not specified, this command acquires complete UpdateXpress System Packs.

> **Notes:**
> - IBM ToolsCenter Bootable Media Creator acquires the latest tools and boot environment automatically each time this command is run if they do not already exist in the working directory specified by the **--local** option.
> - ISO files that are located in the specified working directory are not copied to the bootable media being created.

--license
> Displays license information and exits.

-l *directory* | **--local=***directory*
> Specifies the fully-qualified working directory (for example, `--local=c:\workingdir`).

> This is the directory that contains the files needed to create the bootable media. This is also the default directory where the bootable ISO image and Preboot Execution Environment (PXE) files are created. if not otherwise specified with the **--iso** or **--pxe** options.

> **Notes:**

- If you specify the **--no-acquire** option, this directory must contain all of the files needed to create the bootable media, including the UpdateXpress System Packs, tools, and boot environment. The files must be in specific locations within this directory.
- HTTP and FTP URL style addresses are not supported.

-m [all | {*machine_type*[**,***machine_type*] | none] | --machine-type=[all | {***machine_type*[**,***machine_type*] | none]**

Targets one or more specified machine types, separated by a comma (for example, `--machine-type=4362,4363`). If you specify `all`, this command creates bootable media that supports all IBM System x and BladeCenter machine types.

Notes:
- The machine type must be a 4-digit number. Wildcard are not allowed.
- Spaces are not allowed in a comma separated list.
- You can find a list of valid machine types from the IBM ToolsCenter Bootable Media Creator graphical user interface.

--no-acquire

Acquires UpdateXpress System Pack or individual updates from existing files in the working directory. If this option is not specified, UpdateXpress System Pack or individual updates are acquired from the IBM website.

--no-eject

Prevents ejection of the CD/DVD in the media tray after the Bootable Media Creator exits. If this option is not specified, the media will be ejected.

Note: This option is not valid if the `serverguide` option was selected with the `--function` option.

--no-firmware

Indicates that no firmware updates are to be included in the IBM ServerGuide Setup and Installation CD.

--proxy-address=*address*

Specifies the host name, IP address, or DNS address for the HTTP proxy server (for example, `--proxy-address=10.0.0.10`).

Notes:
- Specify this option if you require an HTTP proxy to connect to the web.
- If you specify this options, you must also specify the **--proxy-port** option.

--proxy-password=*password*

Specifies the proxy user password for authenticating to the HTTP proxy server.

Notes:
- Specify this option if you require an HTTP proxy to connect to the web and credentials must be provided to authenticate to the HTTP server.
- If you specify this options, you must also specify the **--proxy-user** option.
- The proxy password is not persistent and is not stored in the configuration file.

--proxy-port=*port*

Specifies the proxy port number for the HTTP proxy server.

Notes:

- Specify this option if you require an HTTP proxy to connect to the web.
- If you specify this options, you must also specify the **--proxy-address** option.

--proxy-user=_user_ID_
> Specifies the proxy user ID for authenticating to the HTTP proxy server.

> **Notes:**
> - Specify this option if you require an HTTP proxy to connect to the web and credentials must be provided to authenticate to the HTTP proxy server.
> - If your proxy server does not require a password, this option can be omitted.
> - The proxy user ID is stored in the configuration file, but the proxy password is not stored.

--pxe=_directory_
> Creates bootable Preboot Execution Environment (PXE) files in the specified directory (for example, **--pxe=pxe_dir**).

> **Notes:**
> - The specified directory is relative to the working directory specified by the **-l** | **--local** option.
> - You cannot combine this option with the **--cd**, **--iso**, and **--usbkey** options.
> - The PXE files include pxelinux.cfg/default, img3a, img2a, pxelinux.0, tcrootfs and tc.zip.
> - You cannot use this option if `serverguide` was chosen with the **--function** option.

--rollback-supportlist
> Reverts to the original bundled system support list for each function.

--show-supportlist
> Shows the system support list currently in use for each function (diagnostic, update, and deployment).

--timeout=_seconds_
> Specifies the amount of time, in seconds, that you have to press a key before the specified tool starts automatically after you boot using the bootable media. You can specify 1 - 65 535 seconds. The default value is 60 seconds.

> **Note:** This option is not valid if the `serverguide` option was selected with the **--function** option.

--tftp-pxe-address=_ip_address_
> Specifies the IP address of the TFTP server to use for PXE booting.

-t _file_name_ | **--toolzip=**_file_name_
> Uses the specified bootable-environment file that exists in the working directory instead of acquiring it from the IBM website.

> **Note:** This option is not valid if the `serverguide` option was selected with the **--function** option.

--tui
> Runs the selected tools in a text user interface. If this option is not specified, the tools run in a graphical user interface.

> **Note:** This option is not valid if the `serverguide` option was selected with the **--function** option.

--unattended=*protocol://address/directory*

>Specifies that the created media is to run in unattended mode, and indicates the upload location for the log file package. When using this option, the **--autorun** parameter is disabled.

>**protocol**
>>specifies the protocol to use when uploading the log file package. Valid values are:
>>>tftp
>>>ftp
>>>nfs
>>>smb
>>>usb

>>**Note:**

>>1. In order to specify a port number when using an IPv6 address with FTP and TFTP, you must enclose the IPv6 address in brackets, as shown:

>>>`--unattended=tftp://[2001::1234:abcd]:21/logdir`

>>2. Use of IPv6 addressing with NFS is not supported.

>**address**
>>indicates the address of the server.

>**directory**
>>indicates the name of the directory.

--update-supportlist

>Updates the system support list for all functions by acquiring a new ECC list.

>**Note:** You can use the **--update-supportlist** (CLI) or the **Update List** button (GUI) to update the support list from the IBM website. This enables the tool to support new systems or new versions of VMWare ESXi update that are released after the current version of the tool.

--usbkey=*volume*

>Creates a bootable USB flash drive identified by the specified volume.

>(Windows only) *Volume* specifies the USB flash drive. Include the driver letter and the colon character (for example, **--usbkey=d:**).

>(Linux only) *Volume* specifies the device name of the USB flash-drive (for example, **--usbkey=/dev/hbd**). Existing data will be deleted from the USB flash drive.

>**Notes:**
>- (Linux only) You must mount the USB flash drive before running IBM ToolsCenter Bootable Media Creator.
>- You cannot combine this option with the **--cd**, **--iso**, and **--pxe** options.
>- You cannot use this option if `serverguide` was chosen with the **--function** option.

-V | --version

>Display the version of IBM ToolsCenter Bootable Media Creator.

Exit status

The following table contains the codes returned by this command.
- **0**: The operation completed successfully.

- **101**: An option argument is not valid.
- **200**: One or more files were not saved.
- **201**: The specified directory could not be created.
- **202**: An applicable update is not available for specified machine-type.
- **204**: An unrecoverable error occurred while downloading updates from the IBM update repository.
- **205**: One or more specified machine types are not valid.
- **220**: The bootable environment is not found in the working directory.
- **221**: The specified directory or file is not found.
- **222**: The specified directory or files cannot not be created.
- **223**: The specified zip file cannot be uncompressed.
- **224**: The specified zip file does not have the .zip extension
- **225**: No suitable updates were found. SLES10 updates are needed in the created bootable media. Acquire SLES10 updates before creating bootable media.
- **226**: The mode change failed on one or more files.
- **227**: The specified ISO file does not have the .iso extension
- **228**: The ISO file cannot be created.
- **229**: The CD or DVD cannot be burned.
- **230**: The specified volume name for the USB flash drive is not found.
- **231**: The function cannot be performed.
- **232**: The USB flash drive has not been initialized.
- **235**: The specified volume is not a valid CD or DVD volume.
- **240**: A newer version of IBM ToolsCenter Bootable Media Creator is not available. You are running the latest tool.
- **255**: An unknown error occurred.

Examples

1. **Check for a new version of IBM ToolsCenter Bootable Media Creator**

   This example illustrates how to check for and download a new version of IBM ToolsCenter Bootable Media Creator on a Linux environment.

   > **Windows**　`ibm_utl_bomc_9.20_windows_i386.exe --check-update`

   > **Linux**　`./ibm_utl_bomc_9.20_sles10_i386.bin --check-update`

2. **Download the latest UpdateXpress System Pack updates and the boot environment**

   This example illustrates how to download the latest UpdateXpress System Pack updates and the latest boot environment for systems with machine type 8843. Files are copied to the `c:\workingdir` directory.

   > **Windows**　`ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 -l c:\workingdir`

   > **Linux**　`./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 -l c:/workingdir`

3. **Create a bootable CD using an HTTP proxy**

   This example illustrates how to create a bootable CD for a system with machine type 8843. The updates and files are acquired from an HTTP proxy server with IP address `hkce01.hk.ibm.com` and using port 80.

   Note: The HTTP proxy server must support SSL.

   > **Windows**　`ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 --cd=E: -l workingdir --proxy-address=hkce01.hk.ibm.com --proxy-port=80`

> **Linux** `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 --cd=/dev/hda -l workingdir --proxy-address=hkce01.hk.ibm.com --proxy-port=80`

4. **Create a bootable ISO image**

   This example illustrates how to create a bootable ISO image named `tc.iso` for a system with machine type 8843 that includes the UpdateXpress System Pack Installer. UpdateXpress System Pack Installer runs automatically when the bootable media boots. The `tc.iso` file is created in the `workingdir` directory.

   > **Windows** `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 --iso=tc.iso -l c:\workingdir --autorun=uxspi`

   > **Linux** `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 --iso=tc.iso -l workingdir  --autorun=uxspi`

5. **Create a bootable ISO image including VMware ESXi 3.5 updates**

   This example illustrates how to create a bootable ISO image named `tc.iso` for a system with machine type 7995 that includes the UpdateXpress System Pack Installer and VMware ESX3i updates. . UpdateXpress System Pack Installer runs automatically when the bootable media boots. The `tc.iso` file is created in the `workingdir` directory.

   > **Windows** `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 7995 --iso=tc.iso -l c:\workingdir --autorun=uxspi --vmware-esxi-update=3.5`

   > **Linux** `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 7995 --iso=tc.iso -l workingdir  --autorun=uxspi --vmware-esxi-update=3.5`

6. **Create bootable USB flash drive**

   This example illustrates how to create a bootable USB flash drive for a system with machine type 8843 that includes the UpdateXpress System Pack Installer. The updates and files are acquired the IBM website. For the Windows example, the USB flash drive uses the `F:` drive. For the SLES10 example, the USB flash drive uses the `/dev/sdb` device.

   > **Windows** `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 --usbkey=F: -l c:\working_dir`

   > **Linux** `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 --usbkeykey=/dev/sdb -l working_dir`

7. **Create bootable PXE files**

   This example illustrates how to create bootable PXE files (including pxelinux.cfg/default, initrd.gz, vmlinux, pxelinux.0, tcrootfs and tc.zipin) in the `c:\workingdir\pxedir` directory for a system with machine type 8843 that includes the UpdateXpress System Pack Installer. The updates and files are acquired the IBM website. UpdateXpress System Pack Installer runs automatically when the bootable media boots.

   Note: This example requires you to change the Trivial File Transfer Protocol (TFTP) IP address of pxelinux.cfg/default. For more information, see Chapter 4, "Using bootable media," on page 29.

   > **Windows** `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 --pxe=pxedir -l workingdir --tftp-pxe-address=192.168.1.6 --autorun=uxspi`

   > **Linux** `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 --pxe=pxedir -l workingdir --tftp-pxe-address=192.168.1.6 --autorun=uxspi`

8. **Create bootable media using a configuration file**

   This example illustrates create bootable media using option arguments that are set in the `c:\config.txt` configuration file.

   `Windows` `ibm_utl_bomc_9.20_windows_i386.exe --configfile=c:\config.txt`

   `Linux` `./ibm_utl_bomc_9.20_sles10_i386.bin --configfile=/root/config.txt`

9. **Create bootable media with a single update**

   This example illustrates how to create a bootable ISO image named `bios.iso` using the existing BIOS firmware update located in the `working_dir` directory. The UpdateXpress System Pack Installer tool and bootable environment are acquired from the IBM website by default.

   `Windows` `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi --no-acquire --iso=bios.iso -l c:\working_dir`

   `Linux` `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi --no-acquire --iso=bios.iso -l working_dir`

10. **Create bootable media using files on the local system**

    This example illustrates how to create a bootable ISO image named `tc.iso` for a system with machine type 8843 that includes the UpdateXpress System Pack Installer. The updates and files are acquired from the `c:\workingdir` directory on the local system. The `tc.iso` file is created in the `c:\workingdir` directory.

    `Windows` `ibm_utl_bomc_9.20_windows_i386.exe --function=uxspi -m 8843 --iso=tc.iso -l workingdir --no-acquire`

    `Linux` `./ibm_utl_bomc_9.20_sles10_i386.bin --function=uxspi -m 8843 --iso=tc.iso -l workingdir --no-acquire`

11. **Create a bootable diagnostics CD using an HTTP proxy**

    This example illustrates how to create a bootable diagnostics CD. The Dynamic System Analysis tool and bootable files are acquired from an HTTP proxy server with IP address `hkce01.hk.ibm.com` using port 80.

    Note: The HTTP proxy server must support SSL.

    `Windows` `ibm_utl_bomc_9.20_windows_i386.exe --function=dsa --cd=E: -l workingdir --proxy-address=hkce01.hk.ibm.com --proxy-port=80 --autorun=none`

    `Linux` `./ibm_utl_bomc_9.20_sles10_i386.bin --function=dsa --cd=/dev/hda -l workingdir --proxy-address=hkce01.hk.ibm.com --proxy-port=80 --autorun=none`

12. **Create a bootable diagnostics USB flash drive**

    This example illustrates how to create a bootable diagnostic USB flash drive. For the Windows example, the USB flash drive uses the `F:` drive. For the SLES10 example, the USB flash drive uses the `/dev/sdb` device.

    `Windows` `ibm_utl_bomc_9.20_windows_i386.exe --function=dsa --usbkey=F: -l c:\working_dir --autorun=none`

    `Linux` `./ibm_utl_bomc_9.20_sles10_i386.bin --function=dsa --usbkeykey=/dev/sdb -l working_dir --autorun=none`

13. **Create an IBM ServerGuide Setup and Installation CD**

    This example illustrates how to create a bootable IBM ServerGuide Setup and Installation CD.

> Windows `ibm_utl_bomc_9.20_windows_i386.exe`
`--function=uxspi,serverguide -m 8843 -l=c:\workingdir --cd=E:`
`--arch=x86 --no-firmware`

Notices

Use this information to understand the legal notices for this documentation.

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY   10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing 2-31 Roppongi 3-chome, Minato-ku
Tokyo 106-0032, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
MW9A/050
5600 Cottle Road
San Jose, CA 95193
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Adobe and the Adobe logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Intel is a trademark or registered trademark of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

Index

A

accessibility
   features   39
   keyboard   39
   shortcut keys   39

B

BIOS   16
BMC   16
bootable media
   updating   22
bootable media, supported   8
bootable-media, creating   11, 19

C

command   44
configuration file
   files
      configuration   41
   settings, configuration   41
contacting support   31
conventions, syntax diagram   41
creating bootable-media   11, 16

D

disability   39
downloading
   latest version   9
downloading IBM ToolsCenter Bootable
 Media Creator   8
downloadingIBM ToolsCenter Bootable
 Media Creator   3

F

features, accessibility   39

H

hardware
   requirements   3
   supported   4

I

IBM ToolsCenter Bootable Media Creator
   downloading   3, 8
   downloading latest version   9

K

keyboard   39
known problems   31

L

legal notices   57
limitations   31
log file
   files
      log   35

O

operating systems, supported   7

P

problem solving   31
problems   31

R

requirements
   hardware   3

S

ServerGuide   19
shortcut keys   39
solving problems   31
support, contacting   31
supported bootable media   8
supported hardware   4
supported operating systems   7
supported tools   8
syntax diagram conventions   41

T

tools, supported   8
trademarks   58
troubleshooting   31

U

updating
   bootable media   22
using bootable media   29, 30

W

web resources   vi
workarounds   34

Readers' Comments — We'd Like to Hear from You

IBM Systems
IBM ToolsCenter Bootable Media Creator
Installation and User's Guide
Version 9.20

We appreciate your comments about this publication. Please comment on specific errors or omissions, accuracy, organization, subject matter, or completeness of this book. The comments you send should pertain to only the information in this manual or product and the way in which the information is presented.

For technical questions and information about products and prices, please contact your IBM branch office, your IBM business partner, or your authorized remarketer.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you. IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you state on this form.

Comments:

Thank you for your support.

Send your comments to the address on the reverse side of this form.

If you would like a response from IBM, please fill in the following information:

_____   _____
Name   Address

_____
Company or Organization

_____   _____
Phone No.   Email address

Fold and Tape   **Please do not staple**   Fold and Tape
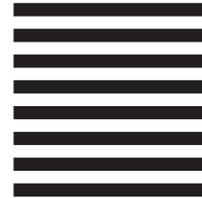
NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL   PERMIT NO. 40   ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

International Business Machines Corporation
ATTN: Dept D06A
PO Box 12195
Research Triangle Park, NC
USA 27709-9990

Fold and Tape   **Please do not staple**   Fold and Tape

Cut or Fold
Along Line

IBM ®

Printed in USA