

RescueBRU System - Rescue CD Backup & Restore Utility Rod Wright
CHANGELOG

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General changes:

02/11/2016 - 7.2.1 - Changed default startup mode from text mode to graphical (Xorg) mode. Fixed some things that were missing from the boot menu and re-ordered options to make more sense. Created a /mnt/usb directory so some procedures would work correctly. Updated the RescueBRU User Guide to reflect changes.

06/27/2018 - 7.2.2 - Updated System Rescue CD version to 5.2.2 to provide kernel support for newer hardware.

03/19/2021 - 7.2.3 - No changes.

09/21/2021 - 7.2.4 - No changes.

01/19/2024 - 7.2.5 - Changed scripts in /etc/init.d to prevent dhcpcd from running automatically at boot. This makes RescueBRU play nice in networks with other DHCP servers by not unnecessarily grabbing up leases unnecessarily. We will let rescuebru.sh acquire addresses later under its own control.

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rescuebru.sh:

05/06/08 - 1.0 - Initial Release

05/09/08 - 1.1 - Added prompting for MBRs and partitions. Added Help. Added media creation.

05/16/08 - 1.2 - Fixed bug where partition array was not being created correctly when multiple drives were present. Added error detection on backup and restore. Added backup media capacity detection and warning. Added backup and restore of extended partition information. Updated help files.

05/24/08 - 2.0 - Added support for HP CISS controller devices. Added NFS media support.

06/05/08 - 2.1 - Added support for Adaptec I2O SCSI controller devices. Improved client IP address deconfliction. Added support to restore linux swap partitions. Fixed unreliable detection of extended partitions.

06/10/08 - 2.2 - Added "-M" (--no-mbr) to PI_BACKUP_ARGS for partimage since it was causing trouble with Adaptec I2O controller, and we back up MBRs separately anyway.

06/12/08 - 2.3 - Added "--force" option to arguments for sfdisk restoration to prevent failure caused by restoring existing table.

07/01/08 - 2.4 - Added line to kill off netplugd before we start, since we don't need it and it interferes with server detection on some machines. Added support for backing up to a local directory.

07/02/08 - 2.5 - Added a 5 second sleep after setting up a network interface to give any network switches time to recognize and route us properly.

07/23/08 - 2.6 - Improved Local media type for general use. Added integration with new rbruserver script. Fixed main menu to catch garbage user input.

08/13/08 - 3.0 - Upgraded sysresccd to version 1.0.4. Improved exit options. Now you can exit to shell, exit and reboot, or exit and power off. Added operation logging so it's easy to tell if something failed. Added backup method menu. Standard is dd/sfdisk/partimage. Verbatim is dd of whole drive, compressed and split into 2G files.

05/13/09 - 3.1 - Fixed net_setup function to stop testing interfaces after it finds a working one. Create /var/lib/nfs/state file so nfs startup script won't complain. Removed Adaptec i2o specific code since sysresccd version 1.0.4 names the devices correctly. NOTE: BACKUPS DONE WITH VERSIONS OF RESCUEBRU PRIOR TO 3.0 THAT CONTAIN I2O DEVICES CANNOT BE RESTORED WITH VERSIONS 3.0 OR LATER. REDO THOSE BACKUPS! Fixed bug where a failure to find a server loops you back through the net setup code again. Removed prompts to save log file when rebooting or powering down since anything saved in the ramdisk will disappear anyway. Added option to view log files on

backup media.

10/22/09 - 4.0 - Added progress indicating for verbatim backups/restores. Removed arbitrary limit to number of clients (since it was easy to fool anyway). Added conv=sync,noerror to dd arguments in vbbackup function to ignore disk errors and replace bad blocks with nulls. Shortened timeouts in the network code to speed things up a bit. Changed network interface scanning to start with short timeouts and gradually increase them so we can work with slow NICs, but not take too long on fast ones. Added a prompt for the initial IP address so that multiple users can work on the same network without IP collisions. Removed the backup media and backup method submenus and replaced them with simple prompts to make them less unwieldy. Moved the restore and backup processes out of the main menu and into functions. Fixed bug that caused incorrect behavior when "quit" was supplied as an image name. Removed prompt to save temporary log file on exit to shell. Save temporary log by default. Removed prompting to save a log with the backup. It's a good idea to save the logs and sometimes it was accidentally not saved. Fixed bug in logview function that caused weird behavior on subsequent calls of the function. Don't delete existing backup before starting new one, so if something goes wrong, we're not screwed. When prompting for IP addresses, after the backup server address, only prompt for the host byte to make entries easier.

2/16/10 - 4.1 - At end of backup, copy new backup over old one before displaying log to avoid long delays. Detect and abort on NFS share mount failure. In function net_setup(), ping more during "determine ip" phase to accommodate slower hardware. In function mbrrestore(), removed untrue statement that associated partitions couldn't be restored. At beginning of function net_setup(), unmount any stale NFS mounts and take down any interfaces that are already up. Put "then" and "do" on the same line as their starting statements so auto-indent works properly in IDE. Fixed bug where status file wasn't getting written if \$remote_dir was different than \$MEDIA_MNT_DIR. In function net_setup(), improve interface scanning to increase the number of pings in each step and decrease the number of steps since some slower NICs were still not coming up. In function net_setup, changed sleeps and pings wherever link is brought up to sleep and ping longer based on the timeout required to find the server. This should prevent NFS mounts from failing on slow

NICs. Modified function partbackup() to save UUID info to image file for linux swap partitions. Included static binary mkswap-uuid to enable setting UUID on swap partitions. Modified function partrestore() to set UUID when restoring swap if UUID info is available, otherwise let mkswap generate one. This prevents swap mount failure on distributions (like Ubuntu) that mount swap based on UUID instead of device name.

2/25/10 - 5.0 - Updated System Rescue CD to version 1.3.5. Stripped unneeded packages to get iso size down enough to run docache by default. Added docache and lowmem as boot parameters. Edited /bin/bashlogin and f1boot.msg to reflect new versions/dates. Added code to mbrbackup(), partbackup(), and vbbbackup() functions to save output of fdisk -l for each drive for comparison on restore. Added code to driveselect() and partselect() functions to compare sizes of original and current drives and issue warnings as required.

6/11/10 - 5.1 - Moved CHANGELOG off to a separate file since it was getting so huge. Found that Adaptec i2o support is a moving target. With the current kernel, it's back to /dev/i2o/hdXX. Put the i2o specific code that I pulled out for version 3.1 back in. IF YOU HAVE BACKUPS OF MACHINES USING ADAPTEC I2O CONTROLLERS THAT WERE DONE SINCE VERSION 4.0, YOU WILL NEED TO MANUALLY RENAME THE FILES IN THOSE BACKUPS TO REFLECT THE NEW DEVICE NAMES, OR JUST DO NEW BACKUPS! Added option to select what you want to do after a successful backup or restore (return to menu, reboot, or shut down). Reworked dobackup() and dorestore() to remove excessive loop nesting. Fixed bug where new backups log files were getting dumped into the \$IMAGE_PATH directory. Added the ability to abort network scanning after the normal scan so you don't have to wait for the long and extra long scans to complete to get back to the menu.

9/9/10 - 6.0 - Updated System Rescue CD to version 1.5.8. Set up boot menu and autoruns to eliminate typing commands at shell prompts. Fixed bug in rescuebru.sh netscan_timeout() where pressing a didn't abort scan. Added scripts to rename backups when the Adaptec i2o driver changes device names. If you get errors when trying to restore like "device not found", run the appropriate script on the server to fix things. Added PXE boot server capability to rbruserver.

1/6/11 - 6.1 - Updated System Rescue CD to version 1.6.4 to get updated tg3 driver. In rescuebru.sh, updated vbbackup() and vbrestore() to use pv for progress indication.

11/29/11 - 6.2 - Swap partitions created with old versions of mkswap didn't have UUIDs, so on backup, the file generated by blkid didn't contain UUID. This caused failure on restore. Fixed the swap creation in rescuebru.sh:partrestore() to detect this condition and do the right thing. If aborting network scanning once, was unable to abort it in subsequent passes. In rescuebru.sh, fixed netscan_timeout() to unset the \$nsa loop control variable at start. Fixed some typos in isolinux.cfg.

7/3/12 - 6.3 - Added flush_input() function to drop spurious user input between prompts. Added y_or_n() function to standardize, simplify, and validate yes or no prompting. Removed mkswap-uuid since new mkswap implements UUID setting. Removed ddprog since we don't use it any more. Renamed backup methods to reflect what they actually do. Added inline help for media type and backup method selections. Added fsarchiver backup method. Fixed bug where USB backup media wasn't being excluded from drive/partition selection prompting. Fixed bug where the initial boot menu wasn't starting the pxeboot server when option 7 was selected. Modified the build tools to put a copy of /root/rescuebru in the root of the ISO file system so you could see the scripts without having to boot the CD.

9/14/12 - 6.3.1 - Added check_route() function to work around slow behavior of certain Cisco switches in setting up routes.

1/16/13 - 7.0 - Added function to display selected actions before beginning an operation and prompt for confirmation. Also check for a backup where nothing is selected. Previously, this would succeed, resulting in a backup of nothing potentially overwriting an existing backup. Added clone.sh and blank.sh command line utilities. Integrated those two utilities into the RescueBRU menu structure. Moved functions that have a common usage among various RescueBRU components to a separate functions.sh file. Integrated CHANGELOGs from the multiple utilities into this file. Fixed bug where arguments passed in from rbruserver were not being parsed correctly resulting in the local RAID devices not being excluded. Changed name of functions vbbackup(), vbrestore() to ddgzbackup(), ddgzrestore()

to match the new method naming scheme. Save S.M.A.R.T. data for drives during backup so that useful drive info may be obtained. When backing up, save drive sizes in separate files instead of trying to extract it from the fdisk -l output. Save partition size information as well as drive size information. When creating directory for backup, if directory already exists, and user elects not to overwrite, the getimagenamename() function is called again instead of just aborting out and having the user start all over. Enabled pausing of various operations. Automatically eject the CD after booting to rescuebru or rescuebru in xorg options. Completely revamped the menu layout of rescuebru. Moved all program settings (media type, backup method, and action after successful operation) to a Settings submenu. Created a Disk Utilities submenu for cloning, blanking, badblocks testing, and media setup. Changed the constant menu options (help, exit) to letters to prevent having to renumber them if new options are added in the future. Reorganized functions to make them easier to maintain. Standardized all menu code to case statements using regular expressions instead of unwieldy "if then elif then" statements with cumbersome test constructs. Updated all help documentation to reflect changes.

1/2/2015 - 7.1.0 - Complete rewrite of rescuebru.sh. Implemented dialog based user interface. Network configuration is now automatic using DHCP. Changed the standard IP addressing scheme to 10.111.x.y. Added ability to save notes and version numbers with a backup. If overwriting a previous backup, preserve notes/logs from the existing backup. If a notes template is present on the server, loads that into the note edit dialog. Added image management functionality (copy/delete/rename) that was previously only available in the server. Backup method is now determined automatically by default for each partition individually based on the contents. Fixed numerous bugs. Removed scsi-i2o conversion scripts because the systems they were written to support are no longer available to test against. If the problem returns (can only happen with a new SystemRescueCD version), the suggestion is just to do new backups of the affected systems. Updated help files.

2/19/2015 - 7.1.1 - Critical bugfix and minor feature release. Fixed bug in do_restore() where size warning code caused abort for backups done of HP CISS devices. Added ability to specify compression levels of backups. Changed hotkeys for help options in menus from "H" to

"?" to avoid conflicts with other menu options. Fixed bug where smartctl output was not being parsed correctly resulting in messages like "Previous device was: (blank)" during restore.

3/10/2015 - 7.2.0 - Updated SystemRescueCD to version 4.5.1 to make use of new megaraid driver device support. Added support for GPT partition tables. Added support for booting machines with UEFI BIOS.

2/11/2016 - 7.2.1 - Xorg mode is now the default mode and includes a backup media capacity monitoring window. Modified the xrescuebru.sh script to disable screen blanking. Validate the version input text to prevent failure to display available backups. Fixed bug where auto_net_setup would report no carrier where it did in fact exist.

06/27/2018 - 7.2.2 - No changes.

03/19/2021 - 7.2.3 - Added support for NVMe devices.

9/21/2021 - 7.2.4 - Fixed bug in getimages() function where gpt partition table images of NVMe devices were not being offered as selections to restore, resulting in failed restores with new drives.

01/19/2024 - 7.2.5 - Added option to the settings menu to set the backup server type. The options are "RescueBRU Server" (the default) and "any DHCP server". Also changed the auto_net_setup() function to only attempt to get a DHCP address based on the backup server type selected in settings. This is to prevent attempts to get an IP address from any available DHCP server in the event that getting one from a RescueBRU server fails. This makes RescueBRU play nice on networks that have DHCP servers by not grabbing up leases unnecessarily. If you need to use RescueBRU with the NFS storage type, but you don't have a dedicated RescueBRU Server running, you'll need to go into settings and explicitly enable promiscuous DHCP by changing the backup server type.

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rbruserver.sh:
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07/23/08 - 1.0 - Initial Release
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08/12/08 - 1.1 - Added code to server_start to clean up stale client  
mark files.
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08/27/08 - 1.2 - Incorporated improvements to mainmenu()

04/30/09 - 1.3 - Added code to intelligently determine RAID array members instead of hardcoding them.

05/14/09 - 1.4 - Added code to create /var/lib/nfs/state file so nfs startup script won't complain. Added capability to view log files. Improved exit options so they match rescuebru and are not confusing. Added raidtest function to show RAID status on startup and with a menu option.

10/21/09 - 1.5 - Changed raidtest function to use mdadm instead of just cat'ing and parsing /proc/mdstat. Start server by default on program start. Fixed bug in logview function that caused weird behavior on subsequent calls of the function. Added ability to show connected clients and their status.

9/7/10 - 2.0 - Add ability to start PXE boot script to act as a boot server.

12/20/10 - 2.1 - Fixed bug in server_start that prevented network from being brought back up after a user stop/start.

1/17/13 - 3.0 - Fixed bug where only the RAID partitions and not the entire drive devices were being passed to rescuebru when local backup/restore was selected. Removed functions that are duplicated in functions.sh. Moved change information to the common CHANGELOG file. Consolidated the three image manipulation functions, image_copy(), image_rename(), and image_delete() into a single function, image_mod(). Cleaned up code structure. Changed the main menu exit options to letters to prevent having to renumber them if new options are added in the future. Combined image copy, rename, and delete options into an image management submenu.

1/2/2015 - 7.1.0 - Advanced the version number to match that of other scripts. Major rewrite of rbruserver.sh. Implemented dialog based user interface. Network addressing is provided to clients using DHCP. Server now uses all available interfaces in the machine, and serves IP addresses and NFS on all. By default, only provides DHCP responses to clients identifying themselves as "rescuebru". If PXE boot server is running, provides responses to all clients by

necessity. Fixed bug where PXE boot server would send the server version of the configuration instead of the client version. Added capability to define a template for backup notes to guide users about what information to be entered in a note. Increased RAID stripe cache size to the max to improve RAID write performance.

2/19/2015 - 7.1.1 - Advanced the version number.

3/10/2015 - 7.2.0 - Updated SystemRescueCD to version 4.5.1 to make use of new megaraid driver device support. Added command to kill dhcpcd at startup since we don't need to ask somebody for an IP address if we're a server. Added support for booting machines with UEFI BIOS.

2/11/2016 - 7.2.1 - Server now runs in Xorg mode. Implemented a RAID set capacity display. Implemented a fault monitoring display and indication using the blue UID light on the server machine to indicate a fault.

06/27/2018 - 7.2.2 - No changes.

03/19/2021 - 7.2.3 - Added support for NVMe devices.

9/21/2021 - 7.2.4 - No changes

01/19/2024 - 7.2.5 - No changes.

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clone.sh:

11/28/12 - 1.0 - Initial Release

1/2/2015 - 7.1.0 - Advanced the version number to match that of other scripts.

2/19/2015 - 7.1.1 - Advanced the version number.

3/10/2015 - 7.2.0 - Updated SystemRescueCD to version 4.5.1 to make use of new megaraid driver device support.

2/11/2016 - 7.2.1 - Changed the input and output block sizes used by the dd command from the default (512 byte) to 4096 byte to increase clone speed.

06/27/2018 - 7.2.2 - No changes.

03/19/2021 - 7.2.3 - No changes.

09/21/2021 - 7.2.4 - No changes.

01/19/2024 - 7.2.5 - No changes.

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blank.sh:

11/28/12 - 1.0 - Initial Release

1/2/2015 - 7.1.0 - Advanced the version number to match that of other scripts.

2/19/2015 - 7.1.1 - Advanced the version number.

3/10/2015 - 7.2.0 - Updated SystemRescueCD to version 4.5.1 to make use of new megaraid driver device support.

2/11/2016 - 7.2.1 - Changed the input and output block sizes used by the dd command from the default (512 byte) to 4096 byte to increase clone speed.

06/27/2018 - 7.2.2 - No changes.

03/19/2021 - 7.2.3 - No changes.

09/21/2021 - 7.2.4 - No changes.

01/19/2024 - 7.2.5 - No changes.

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functions.sh:

12/5/12 - 1.0 - Initial Release

1/2/2015 - 7.1.0 - Advanced the version number to match that of other scripts. Updated existing functions to use the dialog based user interface.

2/19/2015 - 7.1.1 - Advanced the version number.

3/10/2015 - 7.2.0 - Updated SystemRescueCD to version 4.5.1 to make use of new megaraid driver device support. Added --time-style parameter to the ls command in the showimages() and buildimagelist() functions due to a change in the default time style in the newer version of ls.

2/11/2016 - 7.2.1 - No changes.

06/27/2018 - 7.2.2 - No changes.

03/19/2021 - 7.2.3 - No changes.

09/21/2021 - 7.2.4 - No changes.

01/19/2024 - 7.2.5 - Added option to the settings menu to set the backup server type. The options are "RescueBRU Server" (the default) and "any DHCP server". Also changed the auto_net_setup() function to only attempt to get a DHCP address based on the backup server type selected in settings. This is to prevent attempts to get an IP address from any available DHCP server in the event that getting one from a RescueBRU server fails. This makes RescueBRU play nice on networks that have DHCP servers by not grabbing up leases unnecessarily. If you need to use RescueBRU with the NFS storage type, but you don't have a dedicated RescueBRU Server running, you'll need to go into settings and explicitly enable promiscuous DHCP by changing the backup server type. Added an option to the settings menu to specify the remote NFS share name in case we are using a non RescueBRU NFS server but still use the auto net setup type to get our address.