

Dell DR Series System
Release Notes for Version 3.2.6



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Copyright © 2015 Dell Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. Dell™ and the Dell logo are trademarks of Dell Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

2015 - 12


Rev. A15


Contents

1 Release Notes.....	4
Checking System Information.....	4
Drive and system capacities.....	4
External Drive Capacity	5
Supported Software and Hardware.....	6
What's New in this Release.....	6
Open Issues.....	6
Known Issues and Resolutions.....	7
2 Third Party Components.....	11
GPL (GNU General Public License) 2.0.....	12
GNU (General Public License) 3.0.....	16
GNU (Lesser General Public License) 3.0.....	24
Open SSL License	26
The MIT License (MIT)	27
Copyright Notices.....	28
3 Getting Help.....	31
Other Information You May Need.....	31
Contacting Dell.....	31
Locating Service Tag of your system.....	32
Documentation feedback.....	32

Release Notes

These Release Notes are intended to supplement the Dell DR Series system documentation to provide last minute information available for the latest release of the DR Series system software for the DR Series systems, DR4300e, DR4300, and DR6300. These Release Notes contain details about the latest updates, known issues, resolutions, and other information. For a complete list of available DR Series system documentation, see the topic, “Other Information You May Need,” at the end of these Release Notes.

 **NOTE:** For instructions on configuration of DR Rapid devices, see the *Dell DR Series System Administrator Guide*. The guide is available at dell.com/support/home by selecting your specific DR Series system.

 **NOTE:** It is recommended that you check for the latest versions of the DR Series system documentation available from Dell at dell.com/support/home.

Checking System Information

Before troubleshooting issues with any DR Series system, ensure that the installed DR Series system software is up to date. The related drivers, software, and firmware are available at dell.com/support.

To download the latest drivers and firmware for your system, follow the steps below:

1. Go to dell.com/support and enter your service tag or browse to your product.
2. Click **Drivers and Downloads**.
3. Click **View All Drivers**.
4. Confirm that you have the correct product to begin the search for all the related drivers, software, and firmware.

For information about how to check the current version of the DR Series system software installed, see the *Dell DR Series System Administrator Guide* or the *Dell DR Series System Command Line Reference Guide* at dell.com/support/home.

Drive and system capacities

The DR Series system is available in the following models running DR Series system software 3.2.6:

DR4300e system	Consists of preinstalled DR Series system software on a modified Dell PowerEdge R730xd appliance platform.
DR4300 system	Consists of preinstalled DR Series system software on a modified Dell PowerEdge R730xd appliance platform
DR6300 system	Consists of preinstalled DR Series system software on a modified Dell PowerEdge R730xd appliance platform and offers a higher base capacity than the DR4300.

The following table defines the internal system drive capacity and available physical capacity in decimal and binary values for the physical DR Series system hardware appliances. The capacity values listed represent the internal drive and available physical capacities that have been adjusted for the associated overhead in the DR Series system releases.


 **NOTE:** TB and GB represent terabytes and gigabytes in decimal values, and TiB represents tebibytes in binary values. Tebibytes are a standards-based binary multiple of the byte, a unit of digital information storage.

Table 1. Drive and Available Physical Capacities for the DR4300e, DR4300, DR6300

System Drive Capacity	9 Drive Capacity (12 DRV RAID6 with Hot Spare) (Decimal)	9 Drive Capacity (12 DRV RAID6 with Hot Spare) (Binary)	Total Logical Capacity at 15:1 Savings Ratios (Decimal)	Total Logical Capacity at 15:1 Savings Ratios (Binary)
1 TB (DR4300e system only)	4.5 TB	4.09 TiB	67.5 TB	61.35 TiB
1 TB (DR4300e system only)	9 TB	8.18 TiB	135 TB	122.7 TiB
2 TB	18 TB	16.37 TiB	270 TB	245.55 TiB
4 TB	36 TB	32.74 TiB	540 TB	491.1 TiB
6 TB (DR6300 system only)	54 TB	49.11 TiB	810 TB	736.65 TiB
8 TB (DR6300 system only)	72 TB	65.48 TiB	1080 TB	982.2 TiB

For information about external data storage capacity in the expansion shelf enclosures, see the following topic, “External Drive Capacity,” as well as the topic, “DR Series Expansion Shelf,” in the *Dell DR Series System Administrator Guide* at dell.com/support/home.

External Drive Capacity

Additional data storage can be added using the expansion shelf enclosures in the following capacities. The capacity values listed in the following table represent the additional storage capacity in the external drives that are available when you add the supported expansion shelf enclosures to a DR Series system appliance. For more information on the expansion shelf enclosures, see “Expansion Unit Limits” in the *Dell DR Series System Interoperability Guide*.

Table 2. External Drive Capacity and Available Physical Capacity for DR4300e, DR4300, DR6300

DR Series System Drive Capacity	Available Physical Capacity (Decimal)	Available Physical Capacity (Binary)	Total Logical Capacity @ 15:1 Savings Ratios (Decimal)	Total Logical Capacity @ 15:1 Savings Ratios (Binary)
1 TB (DR4300e system only)	9 TB	8.18 TiB	135 TB	122.7 TiB
2 TB	18 TB	16.37 TiB	270 TB	245.55 TiB
4 TB (DR4300 and DR6300 only)	36 TB	32.74 TiB	540 TB	491.1 TiB
6 TB (DR6300 system only)	54 TB	49.11 TiB	810 TB	736.65 TiB
8 TB (DR6300 system only)	72 TB	65.48 TiB	1080 TB	982.2 TiB

Supported Software and Hardware

For a complete list of the supported hardware and software for the Dell DR Series system, see the *Dell DR Series System Interoperability Guide*. You can download this guide by visiting dell.com/support/home and selecting your specific DR Series system, which opens the product support page to view product documentation for your system.

What's New in this Release

This release includes new features and enhancements as well as maintenance fixes for the DR Series system software. (Refer to the section, "Known Issues and their Resolutions," for detailed information on maintenance fixes.)

The following list describes the major features and enhancements that are included in the current 3.2.6 release.

- **Support for new models of the DR Series system hardware** — This release of the DR Series system software supports the following new hardware appliance models: DR4300e, DR4300, and DR6300.
 - ✎ **NOTE:** DR Series system software release 3.2.6 is only supported on the new DR Series system hardware models, DR4300e, DR4300, and DR6300.
- **Support for 8 TB drives** — With the availability of the new DR Series system hardware in this release, 8 TB drives are now supported.

Open Issues

ID	Issue	Description/Workaround
26585	When performing a RM reset on the DR4300e, it may fail during boot up of the RM image.	Reset the DR Series system from iDRAC console if RM installation appears to hang. The system will boot from the hard disk and continue with the RM installation. When the RM installation completes, reboot the DR Series system.
25908	NDMP restore fails when backup is restarted with CommVault Simpana with large amounts of data.	NDMP Backup Restartable Extensions (BRE) are not supported in this release.
25832	RDNFS binary upgrade fails in RHEL 7 client.	Uninstall any existing RDNFS package and then install the new one.
25820	During software upgrade in GUI, issue occurs on Software Upgrade page, displaying Global View link (which is not accessible) and showing iDRAC address as N/A. The GUI is not refreshing properly.	Clicking global view on the menu should not be supported during an upgrade. This can be ignored in the GUI since it cannot be accessed. If you do not toggle between the Global View and software upgrade options in the GUI, the iDRAC address appears.
24597	CIFS usage graph shows that there are CIFS writes when running iSCSI I/O only.	The statistics reported on the iSCSI graph are accurate. Due to a bug, false statistics are reported on the CIFS graph, which can be ignored. It will be fixed in a future release.
23709	Changing machine host name does not get updated properly in all components.	This issue does not cause known failures to the normal operation of the DR Series system and can be ignored. It will be fixed in a future release.
20553	Specific umount options do not work for Rapid NFS.	The -l and -f options are not supported in the rdnfs umount procedure.

ID	Issue	Description/Workaround
20426	Replication traffic that is configured to go through an assigned bond may still run through the default bond (bond0).	If you want to run replication traffic through another bond interface, contact Technical Support to update the route.
18837	Manual modifications made to the Rapid NFS rdnfs.cfg file are not preserved between plug-in updates.	Manually modify the rdnfs.cfg again after upgrading the plug-in.
17294	A NetVault Backup data copy or duplication will stop if the DR Series system goes into maintenance mode as it moves into a read-only condition when this occurs.	Restart the datacopy operation after the DR Series system enters the operational mode.
17206	Advanced networking allows you to change the IP of an interface that is part of a replication link.	Understand your current configuration before adding new advanced networking configuration so that you do not impact the current system configuration.
16280	When you try to get replication statistics, the system displays the <code>Software error: Use of uninitialized value in division (/) at helper.pl line 3548 error.</code>	This is due to the replication target not being in an operational state. Correct the replication target and refresh or use the CLI. The information is available by using the command line. We will correct this error in a future release.
9433	The dedicated hot spare is not automatically configured after replacing the hot spare drive in slot 0.	If the hot spare is replaced, run maintenance by using the <code>--make_standby</code> command. Contact Dell Technical Support for this action.

Known Issues and Resolutions

The following table lists known issues and related resolutions addressed in this DR Series system release.

ID	Issue	Resolution
23879	Backup spanning across multiple tapes fail when 10 GB tape is used for Microsoft DPM.	Recommendations for backups spanning multiple tapes are documented in the DR Series best practices guide for Microsoft DPM available for your specific DR Series system at dell.com/support/home .
23641	Cannot join into the domain by adding a DR Series system to multiple OUs.	In the authenticate command type the format as follows: <pre>--ou topLevelOU/ middleLevelOU/LowerLevelOU/ TargetOU</pre> This format for adding OUs is now documented in the latest <i>Dell DR Series System CLI Guide</i> .
20870	RPC replication errors may be seen during replication from source DR Series system to target DR Series system.	The primary and secondary replication target should have the same MTU setting. Replication proceeds once the MTU is set to the same as the replica target. This recommendation has been added to the section, "Managing Replication Operations," in the latest <i>Dell DR Series System Administrator's Guide</i> .

ID	Issue	Resolution
20539	After installing Rapid CIFS Filter Driver, an incorrect driver version is displayed.	If at the end of successful installation, the version of the driver loaded (which can be checked using <code>rdcifsctl.exe driver -q</code>) is lower than the version of the installed package (listed under Control Panel > Installed products), then you should restart the machine. This issue can occur if the system fails to rename/delete driver files under the system folder.
20456	Installation of SSL Certificate file in the GUI failed on Internet Explorer (IE) when using Remote Desktop.	<p>When uploading the certificate file, the GUI uses the file name with the whole path, which works when uploading on a local system. When using RDP, in the IE browser settings, you need to disable the "Include local directory path .." setting, as follows.</p> <ol style="list-style-type: none"> 1. Under Internet Options > Security, in the "Internet" or "Intranet" area, click Custom Level. 2. In the Security settings, scroll down to Include local directory path when uploading files to a server and ensure it is not selected. 3. Click OK and the refresh the browser.
20424	The following message may appear on the console: "vx_nospace..." even if the system still has space.	This message is a result of trying to allocate a large contiguous block. The allocation of the contiguous block might fail, in which case, allocation continues without trying to keep the file contiguous. The <code>vx_nospace</code> error may appear, and this message can be safely ignored.
20188	When using cascaded replication for a large number of files (1M+), it may appear to take some time to see the actual files on the secondary target.	Namespace resync has to complete on the source and primary target and then data transfer has to start on both before transferring to the secondary target. Once the namespace resync completes on the first replication pair, resync then starts on the second replication pair. Until the namespace resync completes on the second pair, no data is transferred. This ensures the namespace resync completes faster and the snapshot can be deleted faster.
20009	User is able to create/write a file/directory in the share/container even though the user has only read permissions (file-level/security-level) on the share.	You can block write/create operations for a particular domain user by adding an extra 'Deny' 'write' acl for that user. (This issue occurs on the Windows 2008 client.)
19884	RDA plugin logging is not generated by default on physical hosts protected by vRanger because the plugin log service <code>dellldrlogsvc.exe</code> is not installed by default.	<p>To enable RDA plugin logging on physical hosts:</p> <ol style="list-style-type: none"> 1. Copy <code>%INSTALLDIR\Dell\VRDA\dynlib\dellldrlogsvc.exe</code> from the vRanger server to the <code>%INSTALLDIR\Dell\VRangerPhysicalClient\<timestamp>rofs</code> directory on the physical host. 2. Change the directory to: <code>%INSTALLDIR\Dell\VRangerPhysicalClient\<timestamp>rofs</code>

ID	Issue	Resolution
19552	When there is no data to replicate (for example, replication state is INSYNC), replication statistics might indicate a target is running out of disk space even though the target has enough space.	<ol style="list-style-type: none"> 3. Run the command: delldrlogsvc.exe install 4. Run the command: delldrlogsvc.exe start <p>This occurs because the replication process detected target space full condition when there is pending data to be replicated, but, at a later time, that pending data was removed and replication was insync. We do not query target disk state when replication is idle. On a similar note, we might not indicate target space full condition when there is no data to replicate as well. An error state in the replication statistics makes sense only when replication is not in sync.</p>
19485	Adding a host name does not work if you use a FQDN and the host name has letters in it.	You can add names as long as the name is made only of numbers and it is not a FQDN where a period is used in the name string.
19186	If you change the hostname or the domain name after setting up the DR Rapid plug-in, then you may get the wrong backup mode pass-through or de-dupe.	Uninstall and then reinstall the DR Rapid plug-in for this information to be set correctly.
19023	Events information is not captured in the GUI when the date and time under System Configuration is changed to a date and time in the past.	This type of event information is captured in the CLI, by using the <code>–show –alerts more</code> command.
18848	In the Internet Explorer 9 and 10 browsers, when you navigate to a DR Series system from within Global View , and then log out of that system and return to Global View , you are logged out of the machine running the Global View .	This issue does not occur with any other supported browser. For browser information, see the <i>Dell DR Series System Interoperability Guide</i> .
18178	The AIO-Stress tool fails when using Rapid NFS.	Rapid NFS, which uses FUSE, does not support AIO.
18501	Rapid NFS performance drops significantly with parallel NFS ingest from same client.	When using Rapid NFS on your client, it is suggested that you do not run NFS from the same client to the DR Series system in parallel as this will affect your overall performance.
18144	A <code>File name too long</code> error is displayed after trying to create a directory structure that exceeded 522 directories.	The limit on a path within a mount point is 4096 bytes.
18022	Windows 2008 and newer servers cannot assign local users (other than administrator) to Access Control Lists (ACLs). Windows 2008 and later does not query the local users on the DR Series platform.	Assign ACLs to the built-in Administrator user on the DR Series platform if using Windows 2008 and later.

ID	Issue	Resolution
17661	If the cable is removed from a network interface and the network is restarted, the interface does not get an IP. If you then reinsert the cable, you must restart the network to get an IP.	Ensure that the interfaces that you want to add or modify are connected when making Advanced Networking changes. To restart the network, type <code>network --restart</code> at the CLI command line.
17193	DR Rapid critical message <code>Alert RDS Restore failed</code> reported on DR4x00 system. In addition to the error, an event is generated internally in the DR Rapid plug-in when the read operation fails	The DR Rapid plug-in generates events for any kind of read failures.
16745, 17621	If you have the same client for OST and RDS operations and you manually update the client connections, unexpected messages are displayed as: <pre>[root@swwsys-49 ~]# stats -- clients --type RDA RDA Client(s) Type plug-in OS Backup Software Last Access Connection(s) Mode r310-sys-39 RDS -- -- -- -- 0 Default [root@swwsys-49 ~]# ost -- update_client --name r310-sys-39 --mode auto Client is connected with default values. Please update to non-default values.</pre> In Linux systems, the RDS plug-in installation fails if the OST plug-in is already installed in the system	To work around the issue, use a different client for OST and RDS rather than sharing the same machine for both protocols.
16660	When BE has an issue connecting to the server, it may not return detailed errors to the OST plug-in.	See the client log files for the detailed information on the connection failure.
16427	When upgrading your system using the iDRAC, if the upgrade package also contains new iDRAC firmware, the upgrade fails to complete.	Upgrade the DR code using the CLI or GUI using the normal network interface and not the iDRAC.
16053	After you install the Rapid CIFS plugin and replication operations are performed, you receive a blue screen and the following error: <pre>STOP 0x00000027 (parameter1, parameter2, parameter3, parameter4) RDR_FILE_SYSTEM</pre>	This is a Microsoft bug that occurs on shared network resources on a computer that is running Windows Server 2008 R2 or Windows 7. To fix, see MS KB2584874.

Third Party Components

This product contains the third-party components listed below. For third-party license information, go to <http://software.dell.com/legal/license-agreements.aspx>.

Source code for some components can be found at <http://opensource.dell.com>.

Copyright notices can be found below at [Copyright Notices](#).

Component	License	Notes
keyutils utility 1.2.1.el5	GPL (GNU General Public License) 2.0	A copy of the license can be found below at GNU (Lesser General Public License) 3.0
libtalloc2 2.0.8.24.1	GPL (GNU General Public License) 3.0	A copy of the license can be found below at GNU (Lesser General Public License) 3.0
libsigc++20 2.2.4.2.1.el6	GPL (GNU General Public License) 2.0	A copy of the license can be found below at GNU (Lesser General Public License) 3.0
libxml++ 2.30.0.1.el6	GPL (GNU General Public License) 2.0	A copy of the license can be found below at GPL (GNU General Public License) 2.0
Linux SCSI target framework	GPL (GNU General Public License) 2.0	A copy of the license can be found below at GPL (GNU General Public License) 2.0
mhVTL	GPL (GNU General Public License) 2.0	A copy of the license can be found below at GPL (GNU General Public License) 2.0
OpenSSL 1.0.1e	OpenSSL License	This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/) A copy of the license can be found below at Open SSL License
Samba 3.5	GPL (GNU General Public License) 3.0	A copy of the license can be found below at GNU (General Public License) 3.0
Xmlsec1 2.12.8.el6	MIT	A copy of the license can be found below at The MIT License (MIT)
xmlsec1-openssl 2.12.8.el6	OpenSSL License	A copy of the license can be found below at Open SSL License

GPL (GNU General Public License) 2.0

GNU GENERAL PUBLIC LICENSE VERSION 2

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and

disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

- a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on)

of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

[one line to give the program's name and a brief idea of what it does.] Copyright (C) [year] [name of author]

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.

This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

[signature of Ty Coon], 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU (General Public License) 3.0

Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. [<http://fsf.org/>] Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you".

"Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the

unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

- a. The work must carry prominent notices stating that you modified it, and giving a relevant date.
- b. The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".
- c. You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.
- d. If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- a. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- b. Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- c. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
- e. Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

- a. Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or
- b. Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
- c. Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
- d. Limiting the use for publicity purposes of names of licensors or authors of the material; or
- e. Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or
- f. Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

[one line to give the program's name and a brief idea of what it does.] Copyright (C) [year] [name of author]

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see [<http://www.gnu.org/licenses/>].

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

[program] Copyright (C) [year] [name of author] This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see [<http://www.gnu.org/licenses/>].

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read [<http://www.gnu.org/philosophy/why-not-lgpl.html>].

GNU (Lesser General Public License) 3.0

GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. [<http://fsf.org/>] Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

- a. under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or
- b. under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a. Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
 - b. Accompany the object code with a copy of the GNU GPL and this license document.
4. Combined Works.
- You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:
- a. Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.
 - b. Accompany the Combined Work with a copy of the GNU GPL and this license document.
 - c. For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.
 - d. Do one of the following:
 - 1. Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
 - 2. Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.
 - e. Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)
5. Combined Libraries.
- You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:
- a. Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
 - b. Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
6. Revised Versions of the GNU Lesser General Public License.
- The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
- Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General

Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

Open SSL License

/* =====

Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

* =====

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Original SSLeay License

Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)

All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are aheared to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL

code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used.

This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The license and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

*/

The MIT License (MIT)

The MIT License (MIT)

Copyright (c) 2007 James Newton-King

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions: The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE. THE SOFTWARE.

Copyright Notices

Components

libtalloc2 utility	Copyright (C) Andrew Tridgell 2004-2005 Copyright (C) Stefan Metzmacher 2006 Copyright (C) Jelmer Vernooij <jelmer@samba.org> 2008
Libxml2	Copyright (C) 1992, 1993, 1994, 1995, 1996, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006 Free Software Foundation, Inc. Copyright (C) 2000 Gary Pennington and Daniel Veillard. Copyright 1991 by the Massachusetts Institute of Technology Copyright (C) 2000 Bjorn Reese and Daniel Veillard.
Linux SCSI target framework	Copyright (C) 2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2008 Alexander Nezhinsky <nezhinsky@gmail.com> Copyright (C) 2006-2007 Pete Wyckoff <pw@osc.edu> Copyright (C) 2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2008 Ronnie Sahlberg <ronniesahlberg@gmail.com> Copyright (C) 2002-2003 Ardis Technolgies <roman@ardistech.com> Copyright (C) 2005-2007 Ming Zhang <blackmagic02881@gmail.com> Copyright (C) 2005-2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2005-2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2007 Pete Wyckoff <pw@osc.edu> Copyright (C) 2002-2003 Ardis Technolgies <roman@ardistech.com> Copyright (C) 2002-2003 Ardis Technolgies <roman@ardistech.com>, Copyright (C) 2001-2003 InterOperability Lab (IOL) University of New Hampshire (UNH) Copyright (C) 2005 Dmitry Yusupov Copyright (C) 2005 Alex Aizman Copyright (C) 2006-2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2006-2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2007 Dennis Dalessandro (dennis@osc.edu) Copyright (C) 2007 Ananth Devulapalli (ananth@osc.edu) Copyright (C) 2007 Pete Wyckoff (pw@osc.edu) Copyright (C) 2010 Voltaire, Inc. All rights reserved. Copyright (C) 2010 Alexander Nezhinsky (alexandern@voltaire.com) Copyright (C) 2006 FUJITA Tomonori <tomof@acm.org> Copyright (c) Alan Smithee. Copyright (c) Andrew McDonald <andrew@mcdonald.org.uk> Copyright (c) Jean-Francois Dive <jef@linuxbe.org> Copyright (C) 2008 Mark Harvey markh794@gmail.com Copyright (c) 2004 Cisco Systems, Inc. Copyright (C) 2004 Dmitry Yusupov, Alex Aizman maintained by open-iscsi@googlegroups.com Copyright (C) 2004-2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2005-2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2007 Mark Harvey <markh794@gmail.com>

Components


	<p>Copyright (C) 2010 Nicholas A. Bellinger <nab@linux-iscsi.org> Copyright (C) 2011 Alexander Nezhinsky <alexandernf@mellanox.com> Copyright (C) 2010 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2013 Nippon Telegraph and Telephone Corporation. Copyright (C) 2011 Alexander Nezhinsky <alexandern@voltaire.com> Copyright (C) 2007 Davide Libenzi Copyright (C) 2013 Dan Lambright <dlambrig@redhat.com> Copyright (C) 2006-2007 FUJITA Tomonori <tomof@acm.org> Copyright (C) 2006-2007 Mike Christie <michaelc@cs.wisc.edu> Copyright (C) 2008 FUJITA Tomonori <tomof@acm.org></p>
mhVTL	<p>Copyright (C) 2009 - 2010 Kevan Rehm Copyright (C) 2005 - 2013 Mark Harvey Copyright (C) 1992 Eric Youngdale</p>
OpenSSL	<p>Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com). All rights reserved. Copyright remains Eric Young's Copyright 2005 Nokia. All rights reserved. Copyright (C) 2006, Network Resonance, Inc. Copyright (C) 2011, RTFM, Inc. (c) Copyright 1999 Bodo Moeller. All rights reserved. (c) Copyright 1999 Bodo Moeller. All rights reserved Copyright (c) 1999-2002 The OpenSSL Project. All rights reserved. Copyright (c) 2004, Richard Levitte <richard@levitte.org> All rights reserved. Copyright (c) 1999-2010 The OpenSSL Project. All rights reserved. (C) Copyright Microsoft Corp. 1993. All rights reserved. Copyright (C) 1995-1997 Eric Young (eay@cryptsoft.com) All rights reserved. Copyright (c) 2003 The OpenSSL Project. All rights reserved. Copyright (c) 2007 KISA(Korea Information Security Agency). All rights reserved. Copyright (c) 2004 Kungliga Tekniska H\F6gskolan (Royal Institute of Technology, Stockholm, Sweden). Copyright (c) 2005 The OpenSSL Project. All rights reserved Copyright (c) 2008 Andy Polyakov appro@openssl.org Copyright 2006 NTT (Nippon Telegraph and Telephone Corporation) . ALL RIGHTS RESERVED. Copyright (c) 2002 Bob Beck <beck@openbsd.org> Copyright (c) 2002 Theo de Raadt Copyright (c) 2002 Markus Friedl All rights reserved. Copyright (c) 2010-2010 Intel Corp. Author: Vinodh.Gopal@intel.com Copyright (c) 1986 by Sun Microsystems, Inc. Copyright 2011 Google Inc. Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved. Copyright (c) 2005 Hewlett-Packard Development Company, L.P.</p>
Samba	<p>Copyright (c) 2003 SuSE Linux AG, Nuernberg, Germany. All rights reserved. Copyright (C) Stefan (metze) Metzmacher 2002 Copyright (C) Andrew Tridgell 2004 Copyright (C) Andrew Tridgell 2001-2003 Copyright (C) Andrew Bartlett <abartlet@samba.org> 2009 Copyright (C) Andrew Tridgell 2005 Copyright (C) Andrew Tridgell 2003-2005 Copyright (C) Stefan (metze) Metzmacher 2004 Copyright (C) Stefan (metze) Metzmacher 2004 Copyright (C) Andrew Tridgell 2005 Copyright (C) Andrew Tridgell 1992-2005 Copyright</p>

Components


(C) Martin Pool 2002 Copyright (C) Jelmer Vernooij 2002 Copyright (C) James J Myers 2003 <myersjj@samba.org> Copyright (C) Stefan (metze) Metzmacher 2004 Copyright (C) Andrew Tridgell 1998 Copyright (C) Andrew Tridgell 1992-2003 Copyright (C) James J Myers 2003 <myersjj@samba.org> Copyright (C) Andrew Tridgell 2003 Copyright (C) James J Myers 2003 <myersjj@samba.org> Copyright (C) Andrew Tridgell 1992-2005 Copyright (C) James J Myers 2003 <myersjj@samba.org> Copyright (C) Stefan (metze) Metzmacher 2004-2005 Copyright (C) David Disseldorp 2008 <ddiss@sgi.com> Copyright (C) Stefan (metze) Metzmacher 2008 Copyright (C) 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 Copyright (C) 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 Free Software Foundation, Inc. Copyright tridge@samba.org 2002-2003 Copyright metze@samba.org 2004 Copyright (C) tridge@samba.org Copyright (C) metze@samba.org Copyright (C) 2001 by Martin Pool <mbp@samba.org> Copyright (C) Jim McDonough (jmcd@us.ibm.com) 2003. Copyright (C) Stefan Metzmacher 2003 Copyright (C) Andrew Tridgell 2009 Copyright (C) Andrew Tridgell 2004 Copyright (C) Andrew Bartlett <abartlet@samba.org> 2004-2005 Copyright (C) Stefan Metzmacher 2008 Copyright (C) Jelmer Vernooij 2006 Copyright (C) Tim Potter 2004 Copyright (C) Stefan Metzmacher 2005 Copyright (C) 2004 Jelmer Vernooij, jelmer@samba.org Copyright (C) 2008 Matthias Dieter Wallnöfer, mwallnoefer@yahoo.de Copyright (C) Anatoliy Atanasov 2009 Copyright (C) Andrew Tridgell 2009 Copyright (C) Stefan Metzmacher 2004 Copyright (C) Stefan Metzmacher 2009 Copyright (C) Andrew Tridgell 2009 Copyright (C) Volker Lendecke 2005 Copyright (C) Andrew Bartlett <abartlet@samba.org> 2004-2008 Copyright (C) Stefan Metzmacher <metze@samba.org> 2005 Copyright (C) Matthias Dieter Wallnöfer 2009 Copyright (C) Jelmer Vernooij <jelmer@samba.org> 2004,2007 Copyright (C) Andrew Bartlett <abartlet@samba.org> 2004-2005 Copyright (C) Matthias Dieter Wallnöfer 2009 Copyright (C) Stefan (metze) Metzmacher 2006 Copyright (C) Stefan (metze) Metzmacher 2004-2006 Copyright (C) Stefan (metze) Metzmacher 2005 Copyright (C) 2008 Jelmer Vernooij, jelmer@samba.org Copyright (C) 2008 Wilco Baan Hofman, wilco@baanhofman.nl Copyright (C) Guenther Deschner 2006 Copyright (C) Wilco Baan Hofman 2008 Copyright (C) 2001 Andrew Tridgell (from samba3 ads.c) Copyright (C) 2001 Remus Koos (from samba3 ads.c) Copyright (C) 2001 Andrew Bartlett (from samba3 ads.c) Copyright (C) 2008 Jelmer Vernooij, jelmer@samba.org Copyright (C) 2008 Wilco Baan Hofman, wilco@baanhofman.nl Copyright © Jelmer Vernooij <jelmer@samba.org> 2008 Copyright (C) Andrew Tridgell 2005 Copyright © Jelmer Vernooij <jelmer@samba.org> 2008 Copyright (C) Stefan Metzmacher 2006 Copyright (C) Andrew Tridgell 2005 Copyright (C) Andrew Bartlett <abartlet@samba.org> 2008


Getting Help

Other Information You May Need


 **WARNING:** The following table lists the documentation available for the Dell DR Series systems. The documents listed are available at dell.com/support/home by selecting your specific DR Series system. For more information about DR Series system hardware, see the safety and regulatory information that shipped with your DR Series system. Warranty information may be included as a separate document.

Document	Description
<i>Dell DR Series System Getting Started Guide</i>	Provides an overview of how to set up the physical DR Series system hardware and includes technical specifications.
<i>Dell DR Series System Owner's Manual</i>	Provides information about applicable physical DR Series system features, troubleshooting the DR Series system, and installing or replacing the DR Series system components.
<i>Dell DR2000v Deployment Guide</i>	Provides information about deploying the virtual DR Series system, DR2000v, on supported virtual platforms.
<i>Dell DR Series System Administrator Guide</i>	Provides information about managing backup and replication operations using the DR Series system GUI.
<i>Dell DR Series System Interoperability Guide</i>	Provides information on supported hardware and software for the DR Series systems.
<i>Dell DR Series System Command Line Reference Guide</i>	Provides information about managing DR Series system data backup and replication operations using the DR Series system command line interface (CLI).

 **NOTE:** Always check for the latest documentation and document updates at dell.com/support/home and select your specific DR Series system. Read any document updates first because they often supersede information in other documents.

 **NOTE:** Read the release notes first because they contain the most recently documented information about features and known issues for a specific product release.

Contacting Dell

 **NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer-service issues, go to dell.com/support.

Locating Service Tag of your system

Your system is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are found on the front of the system by pulling out the information tag . Alternatively, the information may be on a sticker on the chassis of the system. This information is used by Dell to route support calls to the appropriate personnel.

Documentation feedback

Click the **Feedback** link in any of the Dell documentation pages, fill out the form, and click **Submit** to send your feedback.