



SmarterPing 2.x

Help Documentation

SmarterPing Help

Welcome to the SmarterPing Help System. On the left you can find various help topics that will help you use SmarterPing more effectively. Above, you can find links that will allow you to search the help, browse the knowledge base or visit the SmarterTools Community.

Note that because SmarterPing is an open-source project, some of the help topics contained in this site may differ from your specific implementation.

Common Help Topics

- Installing SmarterPing
- What is SmarterPing?
- Using SmarterPing

General Information

What is SmarterPing

SmarterPing is an HTTP keep-alive utility. Since many of today's web sites rely on background processing, some developers have found it difficult to keep their sites running in shared or low-hit environments. In addition, low use and/or IIS restarts can clear the compiled web code from memory in an ASP.Net web site. SmarterPing helps to ensure that users will not have to wait for a long period of time while their web site compiles after an IIS reset.

The Problem

In order to conserve system resources, web servers like IIS will unload less frequently hit websites. In most cases, this is the preferred action, but there are times that you may want to keep a website active:

- When a user first visits a site that has been unloaded, they are forced to wait for the site to load up, compile, and generate the page. This can take a considerable amount of time.
- Google and other search engines are starting to heavily weight page speed. If a page has to recompile or reload into memory, that makes your page speed worse.
- If you have background threads in your web application that process reports or send emails, those threads will stop until the site is reactivated.

How SmarterPing Helps

SmarterPing runs as a Windows Service in the background. It can be run on a desktop or on the Windows-based server itself.

Once you configure SmarterPing with a list of web site URLs, it will run through those every 10 minutes (by default) and ensure that they are active.

This keeps those websites active and responsive, restarts any stopped background threads, and ensures that pages are in memory ready to serve.

Note about IIS 7.5

IIS 7.5 adds settings that better control auto-startup of web applications. This can be used to enhance the performance of IIS, but setup is fairly complex, and even when this is setup, SmarterPing can be used to keep specific pages of a site compiled and ready to serve quickly. For more information refer to Microsoft's Information Regarding Application Pools .

Copyright and Trademark Information

All contents of this Help file, as well as all contents on www.smartertools.com, are Copyright © 2002-2011 SmarterTools Inc. All Rights Reserved.

The SmarterPing and SmarterTools names and logos are trademarked and protected by SmarterTools

Code for SmarterPing is available and is released under the GNU General Public License . The code is Copyright © 2002-2011 SmarterTools Inc. All Rights Reserved.

Source Code

SmarterPing is available as a standalone application download or as source code that can be compiled and used.

All code is written in Microsoft.Net 4.0 using C# as the primary language. Visual Studio 2010 is recommended for editing / compiling the code.

The source code for SmarterPing is available for download from the SmarterPing KB Article . It is released under the GNU General Public License

Installation

System Requirements

The requirements of SmarterPing are minimal, so it can run well on any operating system supported.

Minimum Requirements

- Windows Operating System
 - Windows 2003
 - Windows 2008
 - Windows 2008 R2
 - Windows XP
 - Windows Vista
 - Windows 7
- 450 Mhz Processor
- 64MB RAM
- 2 MB Hard Disk Space (not including the Microsoft .Net Framework)
- Microsoft.NET Framework 4.0 (with all applicable service paks and/or patches).

Microsoft.Net 4.0 is available for download from the Microsoft.Net Download Site .

Installing SmarterPing

SmarterPing requires Microsoft.Net Framework 4.0 to operate correctly. It is available for download from the Microsoft.Net Download Site .

Once the Microsoft.Net Framework is installed, run the file Install.bat included with your SmarterPing installation. On newer operating systems, you may have to right-click the file and choose Run as Administrator to get it to properly install.

After the product is installed, run SmarterPing.exe to start the application configuration interface. For ease of use, you may wish to pin SmarterPing.exe to your start menu or task bar.

How to Uninstall

To remove the application, run the file Uninstall.bat included with your SmarterPing installation. On newer operating systems, you may have to right-click the file and choose Run as Administrator to get it to uninstall properly.

Overview

Using SmarterPing

When SmarterPing first loads, it may ask you to install the Windows Service if it was not detected. If this box appears, in most cases you will want to choose to install the service to ensure proper operation of the program.

Adding Sites

Any URL that you add to SmarterPing will be hit on a regular interval. To configure the list of sites, click on the Manage URLs button at the bottom of the main interface.

Enter the URLs, one per line, the same way you would type them into a web browser to hit the pages.

Options

In the top menu, choose Tools -> Options to change the settings below and control the Windows Service.

- Ping Sites Every X Minutes: This controls how often the pages in your URL list get hit. In most cases, it is recommended to set this to 10 minutes.
- Startup Mode: In most cases, it is recommended to set this to Automatic.
- Current Status: Use these options to control the state of the SmarterPing service

Click on OK to save the settings.

End User License Agreement (EULA)

SMARTERTOOLS END USER LICENSE AGREEMENT SmarterTools, Inc. Software License Terms

This End User License Agreement ("EULA") is between SmarterTools, Inc. ("SmarterTools") and the end user ("You") of the software product this EULA accompanies ("Software"). It is important to read and understand all of the terms, limitations, and conditions contained in this EULA prior to installing and using the Software because they affect how You may use the Software. By explicitly accepting this EULA, or by installing, copying, downloading, accessing, or otherwise using the Software, You agree to be bound by the terms of this EULA. If, prior to using or installing the Software, You decide that You are unable or unwilling to agree to the terms of this EULA, promptly and completely uninstall and destroy any electronic copies of the Software and accompanying items in your possession.

This EULA applies to:

- * This Software, including but not limited to the object code, source code, and any accompanying alphanumeric combinations used to enable certain Features Selection(s) in the Software (collectively, "License Keys")
- * Future Versions of this Software
- * Updates and plugins to this Software, as may be made available by SmarterTools from time to time, including but not limited to language packs, dictionaries, and skins (collectively "Updates")
- * Features selection(s), including "Professional," "Enterprise", and "Free" editions of the Software, and maximum allowed numbers of users, profiles, devices, email addresses domains, web sites, or agents ("level"); (collectively, "Features Selection")
- * Services, support, advice, and recommendations related to this Software that may be made available by SmarterTools on the Internet, in the Software documentation, or by telephone
- * Any and all Technical Support Services offered in connection with the Software

Definitions:

The following definitions shall apply for the purposes of this EULA

- * "Shared Hosting" shall refer to an individual, group, or organization ("Shared Host") that maintains a physical server device upon which software and/or tools are owned and installed by the Shared Host and made available to third parties for access or use; whether or not a fee or other compensation is

exchanged; and in which the third parties do not have authorization or access to the activation areas of the Software and/or do not have authorization or access to system administration functions.

* "Dedicated Hosting" shall refer to an individual, group, or organization ("Dedicated Host") that maintains a physical server device that is wholly or, in the case of Virtual Private Servers ("VPS"), a dedicated portion of a physical server device that is sold, leased, or otherwise made available to a third party; whether or not a fee or other compensation is exchanged; and in which the third party has authorization and/or access to the activation areas of the software and/or to system administration functions.

1. License.

A. Grant of License.

Subject to the terms and conditions of this EULA, SmarterTools hereby grants You a revocable, non-exclusive, non-transferable license to use the Software ("License") in accordance with the terms and conditions of this EULA. This License shall commence on the effective date of this EULA and shall remain in effect until terminated in accordance with the terms of this EULA or superseded by another end user license agreement pursuant to installation of an Update or changes in Features Selection.

SmarterTools, together with any third party content providers whose software code is incorporated in the Software or distributed with it, retains all right, title, and interest to the Software, including, but not limited to, copyrights, trademarks, proprietary methods, and trade secrets incorporated into the Software.

This License is subject to any restrictions SmarterTools, in its sole discretion, may impose in this EULA or imposed as a condition of purchase, including but not limited to the particular Features Selection You chose at the time of purchase. Updates and Features Selection are subject to the terms and conditions of this EULA, or any other end user license agreement provided with such Update or Features Selection at the time of receipt or purchase, which shall supersede this EULA.

This License to use the Software is conditioned upon You paying all related charges and fees imposed by SmarterTools for purchase of the Software, monthly-license of the Software, or for the authorized delivery of the Software as a service (SaaS). SmarterTools may, in its sole discretion, terminate this License if You fail to pay such charges or fees within the time allowed by SmarterTools.

B. Use of the Software.

You shall use the Software for Your own personal or internal business purposes. Personal or internal business purposes shall include the installation of the Software and activation of only one License key on a single personal computer or server, one instance of a Virtual Private Server, or as one instance

within Your portion of a Shared Hosting environment, for Your sole use or use by Your Customer(s) pursuant to the terms of section 1.C. below.

C. Sublicense, Resale, Lease, Sub-lease ,or Transfer

Dedicated Hosts and other authorized parties ("SmarterTools Authorized Reseller") may Resell or Transfer this License (collectively, "Transfer") to any third party subject and pursuant to a separate authorizing agreement in writing with SmarterTools. For the purposes of this EULA, Transfer shall refer to any transaction whereby sole use, management, ownership, and/or control of the software is assigned to any third-party for that party's benefit, pursuant to the terms and conditions of this EULA, whether or not a fee or other compensation is charged and whether or not such Transfer is permanent or temporary. Transfers by or between any party(ies) other than SmarterTools or a SmarterTools Authorized Reseller must be approved by SmarterTools in advance and in writing.

You may install and maintain the Software on behalf of a third party; however, all SmarterTools Licenses in such circumstances must be purchased by the third party directly through SmarterTools or through a SmarterTools Authorized Reseller and the Software must be activated under the name of the related third party; thereby, the related third party assumes full ownership of the License subject to the terms and conditions of this EULA.

D. Limitations on Use of the Software and License Keys

You shall not modify, reverse engineer, reverse assemble, decompile, disassemble, decrypt, reflect, or use reflection on the Software, or otherwise attempt to discover or obtain the source code or structure, sequence, or organization of the software in whole or in part, except as provided in Section 9 of this EULA. You may distribute copies of the software code in the same format that you received it, pursuant to the terms of this EULA, so long as You do not modify the Software in any way and so long as all copyright, trademark, and other notices contained in the Software remain intact.

The Software may periodically and automatically contact SmarterTools pursuant to Section 10 of this EULA. This contact may occur without any notice to You of such contact, and You hereby consent to such contact with SmarterTools. You shall not disable, delay, dismantle, disrupt, or otherwise interfere with the ability of the Software to contact or communicate with SmarterTools or the authentication of License Keys. Further, You shall not attempt to bypass, circumvent, disable, design around, or obviate the License Keys for any reason, including but not limited to attempts to access features or capabilities in the Software not included in your Features Selection. Further, other than pursuant to Section 1.C. of this EULA, You shall not disclose or disseminate any License Keys associated or distributed with the Software, publicly or to any third party, nor shall You allow anyone else to use any such License Keys.

You may reassign this Software to a different device owned, leased, or rented by You subject to SmarterTools' approval in its sole discretion, provided that You completely uninstall or delete the Software from any personal computer, server, Virtual Private Server, or other device on which the Software was previously installed. SmarterTools reserves the right to require, in its sole discretion, reauthorization, re-registration, or another form of authentication at no additional charge to enable reassignment of the Software, and may disable access to the Software if it determines, in its sole discretion, that such reassignment is prohibited by the terms of this EULA or constitutes fraud.

You shall not use the Software to harm third parties, disseminate unsolicited communications (emails, etc.), requests, or harmful data or programs including but not limited to malicious scripts and viruses. You shall not use the Software to disseminate pornography, child pornography, or other harmful or illegal materials, or in any way that may disparage or bring disrepute to SmarterTools.

2. Term and Termination.

This EULA is effective as of the date You install or use the Software, or as of the date You accept this EULA, whichever is sooner. You may terminate this EULA by completely deleting and wholly destroying any copies of the Software and documentation in Your possession or control. SmarterTools may terminate the License or EULA if, in its sole discretion, SmarterTools determines that You have breached any of the terms and conditions of this EULA, with or without notice to You of such termination.

Sections 1.B., 1.C., 1.D., 3, 5, 6, 7, 8, 9, 10, 11, 12, and 13 shall survive termination of this EULA.

3. Limited Warranty and Limitation of Liability.

A. No Warranties

SmarterTools does not warrant that the Software will meet Your requirements, that the operation of the Software will be uninterrupted or error-free; that any data supplied by the Software will be accurate; or that the Software will work with any 3rd-party or supplemental software or hardware furnished with or accompanying the Software. Further, SmarterTools does not warrant the efficacy, functionality, or operation of such Accompanying Software or Hardware. ALL HARDWARE, SOFTWARE, OR OTHER PRODUCTS OR SERVICES PROVIDED BY SMARTERTOOLS UNDER THIS EULA ARE PROVIDED AS-IS, AND SMARTERTOOLS EXPRESSLY DISCLAIMS ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

B. No Liability for Damages

SmarterTools shall not be liable for any damages under this EULA, including but not limited to consequential, statutory, punitive, incidental, or indirect damages, including but not limited to any loss of data, loss of profits, loss of savings, loss of time or convenience, or additional cost arising out of the use of or inability to use the Software, documentation, or any 3rd-party or accompanying software or hardware; even if SmarterTools has been advised of the possibility of such damages. Further, SmarterTools shall not be liable for nor bound by any claims, representations, promises, assertions, or other statements made by anyone other than SmarterTools employees or officers, including but not limited to resellers and sales representatives. SmarterTools shall not be liable for any damages or inconvenience resulting from errant data or misreporting of data, nor failures to relay information that may be deemed important by the user, any errant or substantial mistranslation of language or information, and/or for any damages arising from events listed in section 5 of this EULA.

C. Limitation of Liability

Your sole remedy under this Agreement shall be limited to replacement of the Software.

4. Technical Support

Currently, SmarterTools provides technical support for the Software via SmarterTools personnel, documentation, and Internet resources. Depending on Your Features Selection, including but not limited to pricing, volume, Software version, and the number of licenses You purchased, a certain amount of technical support may be included at no additional charge. Otherwise, technical support may be available for an additional charge on a per incident, per call, per time-frame basis, or in other support packages. The amount of these charges may vary from time to time. Technical support is provided AS-IS, and the provisions of section 3.A., 3.B., and 3.C. apply to technical support.

SmarterTools provides no guarantee, expressed or implied, regarding the efficacy or continuation of technical or other support for this Software or particular version of this Software for any length of time and SmarterTools may choose to discontinue such support at any time and for any reason.

5. Indemnification.

You shall defend, indemnify, and hold harmless SmarterTools and its suppliers, licensors, successors, affiliates, agents, employees, executives, and assigns (hereafter "SmarterTools Indemnified Parties") from any claims, damages, losses, or expenses (including without limitation attorney fees and costs) incurred in connection with any and all damages, losses, claims, suits, judgments, or causes of action asserted against SmarterTools Indemnified Parties by third parties or Your Customers related to:

* Any claims arising from or related to Your use of the Software or use of the Software by Your Customers or any portion thereof, including but not limited to claims of infringement of patents, copyrights, or other intellectual property or proprietary rights arising from your use of the Software or

from use of the Software or any portion thereof in combination with any other software, hardware, device, system, or service;

* Damages arising from Your breach or Your Customer's breach of this EULA;

* Any loss, misdirection, or inaccuracy of any and all data, message, and/or information (partial or complete) by or directed to You, Your Affiliates, Your Customers, Your vendors, Your assignees, or any related third party and from any action, inaction, or consequence arising out of such loss, misdirection, or inaccuracy of any data, message, or information;

* Any misuse, abuse, hostile transmission, fraud, or unlawful action arising from or related to the use of the Software or any portion thereof by or directed at You, Your affiliates, Your Customers, Your vendors, Your assignees, and/or any related third party;

* Any claim, damage, loss, or expense related to the installation, quality, use, operation, functionality, transfer, or de-installation of the Software to You, Your Customer(s), or third parties;

* Any charges imposed by You or third parties on You or Your Customers related to Your or Your Customer(s)'s use of the Software, including but not limited to charges for data transmission and bandwidth, regardless of whether you have followed any configuration recommendations provided with the Software or Software documentation.

6. Transfers

The rights under the License may be sublicensed under the terms of Section 1.C. or transferred to any of Your successors, heirs, or assigns. Any other attempt to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is void unless You have a separate written agreement with SmarterTools allowing for such transfer(s).

7. Jurisdiction.

This Agreement shall be governed in all respects by the laws of the United States and the State of Arizona, except for conflict of laws provisions. The parties agree that for any dispute, controversy or claim arising out of or in connection with this Agreement, venue and personal jurisdiction shall be in the federal, state or local court with competent jurisdiction located in Maricopa County, Arizona. The prevailing party will be entitled to an award of reasonable attorney's fees.

In the case that You are an agency or entity of the United States Government, the following additional terms apply:

* The Software qualifies as Restricted Computer Software, as defined in the Rights in Data-General clause at Federal Acquisition Regulations 52.227-14.

* Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

8. Payments.

You shall pay the total fee(s) for the Software imposed by SmarterTools at the time of purchase. You shall pay all invoices rendered by SmarterTools within thirty (30) calendar days after the invoice date, or within another time frame set forth by SmarterTools in writing in a separate agreement. All payments shall be made in United States Dollars (\$). If You fail to pay any amount due within the above timeframe, SmarterTools may impose late charges equal to the lesser of 1.5% per month or the highest interest rate allowable by applicable law, together with all related expenses and collection costs, including reasonable attorneys' fees, incurred by SmarterTools collecting any amounts owed under this EULA. Further, You shall reimburse SmarterTools for any out-of-pocket expenses incurred in connection with duties performed by SmarterTools hereunder. Upon request by You, SmarterTools shall provide You with reasonable documentation evidencing the out-of-pocket expenses incurred by SmarterTools.

SmarterTools may disable License Keys for invoices that are not paid within a reasonable timeframe as determined by SmarterTools in its sole discretion. Licenses purchases that are made fraudulently, deceptively, or that result in a charge-back or disputed charge are considered to be not paid and are subject to disable.

9. Limitations to Customization.

Should You choose to alter the appearance and/or user interface of the Software (the "Skin") by using the custom style or Skin options included in certain versions of the Software or by using a third-party process to alter the appearance or interface of the Software, the following requirements must be met:

* You shall maintain and not remove or obscure any proprietary notices in the Software. The SmarterTools name may be displayed in any font type or style, but it must be displayed in no smaller than 8-point font. The name of the Software shall remain visible to the naked eye and free from any clutter or similar color scheme (e.g. black font on a black or similarly dark background that would preclude the user from easily identifying the Software). Use of the qualifiers "powered by" and "provided by" is permitted (e.g. "Powered by SmarterMail"). Any deviation from these limitations must be approved in writing by SmarterTools in advance of implementation and may result in additional license fees, if applicable.

* All applicable copyright and trademark information shall remain visible to the naked eye, free from

any clutter or similar color scheme, and can be displayed in any font type or style but shall be displayed in no smaller than 8-point font.

10. Transmission of Information and Communication.

At purchase of the Software and at other times during the term of this EULA You will be required to supply certain information including, but not limited to, email address(es), password(s), personal and/or company information, payment information (e.g. credit card information), and/or other personally identifiable and potentially valuable information. Acceptance of this Agreement indicates Your willingness to provide this information and have it transmitted to SmarterTools via internet, phone, facsimile, verbally, or otherwise and Your assumption of the incumbent risks associated with such transfers. SmarterTools takes the privacy and security of data very seriously and will make efforts to protect data in accordance with our privacy policy. A copy of the SmarterTools privacy policy is available by request. In any event, SmarterTools and its suppliers, licensors, successors, affiliates, agents, employees, executives, and assigns shall not be liable for any stolen, misdirected, or otherwise mishandled information pursuant to this EULA.

From time to time SmarterTools may contact You at any address, including any email address(es), You have provided to SmarterTools regarding the Software, available Updates or Features Selection for the Software, or for promotional purposes. You hereby expressly consent to such communications. If you do not wish to receive further notices, you may notify SmarterTools of your preferences.

From time to time the Software may cause computers, servers, and/or other electronic devices on which You install and operate this Software to use the internet or other means to exchange data with computers, servers, or other electronic devices owned by SmarterTools in order to maintain licenses, communicate updates or instructions, track the location and install base of the Software, gauge performance, enforce SmarterTools' rights with regard to licensing and this EULA, or other information as is needed to properly maintain, protect, or update the Software. Acceptance of this Agreement indicates Your acceptance of this communication and Your assumption of the incumbent risks associated with such communication.

11. Third-party Correspondence, Interaction, Purchase, Service, or Promotion.

During use of the Software, You may enter into correspondence with, purchase goods and/or services from, or participate in promotions of advertisers or sponsors showing their goods and/or services through the Software. Any such activity, and any terms, conditions, warranties, or representations associated with such activity, is solely between You and the applicable third party. SmarterTools shall have no liability, obligation, or responsibility for any such correspondence, interaction, purchase, service or promotion between You and any such third-party including, but not limited to, translations, mapping, sharing, or any other service or transfer, even if such third-party correspondence, interaction,

purchase, service, or promotion is listed as a benefit or feature of the Software. SmarterTools explicitly disclaims any liability, obligation or responsibility for the continuation, viability, quality, reliability, or availability of any such third party provided correspondence, interaction, purchase, service, or promotion.

SmarterTools does not endorse any sites on the Internet that are linked through the Software. SmarterTools provides these links to You only as a matter of convenience, and in no event shall SmarterTools or its licensors be responsible for any content, products, or other materials on or available from such sites. SmarterTools provides the Software to You pursuant to the terms and conditions of this Agreement. You recognize, however, that certain third-party providers of ancillary software, hardware, or services may require Your agreement to additional or different licenses agreements or other terms prior to Your use of or access to such software, hardware, or services.

In all events, conditions, and circumstances the provisions and limitations of Sections 3, 5, and 7 shall apply.

12. Severability.

The provisions of this Agreement will be deemed severable and the invalidity or unenforceability of any provision(s) will not affect the validity or enforceability of any other provision(s) herein.

13. Entire Agreement.

This EULA constitutes and expresses the entire agreement and understanding between the parties hereto with respect to the subject matter, all revisions discussions, promises, representation, and understanding relative thereto, if any, being herein merged. This Agreement replaces and supersedes any prior agreement entered into between the parties hereto with respect to the subject matter herein.

Thank You for choosing SmarterTools Software.

Rev. 20090410

GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 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>.

