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1 PURPOSE

Important Note: The distributed Readme document should be reviewed prior to the installation or upgrade of GroundWork Monitor Open Source 5.0.

The purpose of this “Installation” document is to outline system hardware requirements, pre-installation planning, and installation instructions for the GroundWork Monitor Open Source 5.0 product. Additionally, the documents “Readme” and “Release Notes” include bug fixes and known issues; and new features in this release, respectively. Also, the document “Build Instructions” describes the steps to build from source. All documents are distributed in .txt and .pdf formats.

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2 SUPPORTED OPERATING SYSTEMS

The GroundWork Monitor Open Source 5.0 RPM-based installer enables all components to be installed together on standard versions of commercial Linux. GroundWork adds supported distributions only after rigorous testing. These supported operating systems are recommended for stability and performance reasons. We highly recommend placing GroundWork Monitor Open Source on a dedicated server to ensure adequate performance, especially if there are a large number of devices to monitor via polling.

Current Supported OS for 32-bit Machines

GroundWork Monitor Open Source currently runs on Linux and supports the following Operating Systems running on 32 bit. See the list below for future OS support for 32 bit machines.

- Red Hat Linux Enterprise WS 4.0 32 bit
- Default install but you may want to remove Office and Graphics tools. Red Hat 4 includes, as a default, MySQL 4.1.10a which should be uninstalled. The Red Hat default MySQL version is not supported so it must be de-installed and MySQL version 5.0.18 or higher installed.
- Red Hat Linux Enterprise ES 4.0 32 bit
- SuSE Linux Enterprise Server 9.x 32 bit
- CentOS 4.3

Future Supported OS for 32-bit and 64-bit Machines

- SuSE Linux Enterprise Server 10.x 32 bit

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3 SOFTWARE PREREQUISITES

- MySQL Professional version 5.0.18 or higher
- Linux Kernel version 2.6
- glibc lib version 2.3

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4 BROWSER RECOMMENDATIONS

GroundWork recommends the following web browsers when using GroundWork Monitor Open Source:

- Firefox 1.x
- Internet Explorer 6.x

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5 HARDWARE RECOMMENDATIONS

The minimum hardware configuration for a single GroundWork Monitor server is as listed below. Assuming that the system is configured to monitor 100 Hosts that are polled at default intervals, and that standard Service Profiles are used, the minimum configuration will suffice. In extreme cases, more powerful hardware (increased CPU speed and quantity, and RAM) can be used to extend the system. At this time there is no support for 64-bit Linux kernels.

Minimum Hardware Configuration for Networks (< 100 devices)

- One Intel Pentium 4 CPU, 1 GHz or better
- 1 GB RAM
- 40 GB hard disk
- CD ROM drive

Recommended Hardware Configuration for Networks (> 100 devices)

- One Intel Pentium 4 CPU, 2.8 GHz or better
- 2 GB RAM
- 80 GB hard disk
- CD ROM drive

Recommended Hardware Configuration for Networks (> 150 devices)

- Two Intel Pentium 4 CPU, 2.8 GHz or better
- 4 GB RAM
- 160 GB hard disk
- CD ROM drive

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6 PREREQUISITE INSTALLATION AND CONFIGURATION

Installation of GroundWork Monitor Open Source 5.0 from an RPM or Package requires preparing the installation environment, installing prerequisite software components, and following the installation procedure. Instructions are listed below and are also in the open source repository at this URL: http://archive.groundworkopensource.com/groundwork-opensource/trunk/build/.

Step 1 - SE Linux Configuration

The SE Linux package interferes with MySQL installation and must be disabled. It can be re-enabled after installing MySQL.

1. Edit the **/etc/selinux/config** file so that it looks like:

   # This file controls the state of SELinux on the system.
   # SELINUX= can take one of these three values:

enforcing - SELinux security policy is enforced.
permissive - SELinux prints warnings instead of enforcing.
disabled - SELinux is fully disabled.

SELINUX=disabled

SELINUXTYPE= type of policy in use. Possible values are:
targeted - Only targeted network daemons are protected.
strict - Full SELinux protection.
#SELINUXTYPE=targeted

2. If you change these settings you may need to reboot your system before installing MySQL.

Step 2 - Perl-DBI Installation

GroundWork Monitor Open Source requires **Perl-DBI-1.40-5.i386.rpm** to be installed on Red Hat servers prior to MySQL. To download Perl DBI 1.40-5 i386 for Linux select this link http://rpmfind.net/linux/RPM/fedora/3/i386/perl-DBI-1.40-5.i386.html.

Step 3 - MySQL Configuration

GroundWork Monitor Open Source requires the following packages (version 5.0.18 or higher) to be installed on the system. If you are not sure if the correct version of the packages is installed, query the RPM database for each package using **rpm -qa |grep MySQL**.

Note: Upgrading an existing MySQL 4.x installation can cause the MySQL engine start to fail. Configuration settings for MySQL 4.x might be incompatible with MySQL 5.0. If MySQL doesn't start (server error) check if an old **my.cnf** file exists in **/etc** directory. Simply remove or rename the file and MySQL will start (**/etc/init.d/mysql restart**).

Downloading MySQL Pro (version 5.0.18 or higher)

You can download MySQL Pro 5.0.18-0 at http://dev.mysql.com/downloads/.

- MySQL-server
- MySQL-client
- MySQL-shared-compat
- MySQL-shared-pro

Installing MySQL Pro

You can install these packages by copying the appropriate MySQL rpm files for your operating system and issuing the command **rpm -Uvh MySQL***. This will install the MySQL packages in the correct order.

Database Access

The installer needs **root** access for creating new databases and setting the permissions. If your **root** password for MySQL is empty (not recommended, but is the default after installing MySQL) no further MySQL configuration is needed and you can proceed with the installation step. If a **root** password has been specified you can pass it to the installer by setting an environment variable.

Important Note: If you use a **root** password for MySQL it needs to be provided to the RPM's that perform the installation. Prior to launching any RPM commands you need to set the value of the MySQL **root** password as following:

1. Create an environment variable **MYSQL_ROOT** (all UPPERCASE) with the password value (e.g. **export MYSQL_ROOT=password**).
2. Set the root password as described in the below example:

   from command prompt# export MYSQL_ROOT=test

Step 4 - Network Configuration

MySQL uses the localhost file on /**etc**/**hosts**. Make sure that the localhost entry looks like the example below. Also, make sure that localhost is first after the IP address followed by **localhost.localdomain**. Replace **192.168.2.100** with the **IP address** of the system, and groundworkserver with the real Host name.

127.0.0.1 localhost localhost.localdomain

192.168.2.100 groundworkserver groundworkserver.mycompany.com

Example: **groundworkserver.mycompany.com** is the full qualified domain name where the GroundWork Monitor server is installed. Also, make sure TCP port 3306 is not blocked by your firewall rules. This port is for communication to MySQL server.

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7 NEW INSTALLATION

Installation of GroundWork Monitor Open Source means installing the software in a new, clean environment where there isn't any pre-existing GroundWork Monitor data. This install package implements all GroundWork Monitor Open Source components in 1 RPM file:

1. **OS RPM**: groundwork-monitor-osv-5.0.y-yy.zzzz.zzzz.rpm

Important Note: Throughout the installation instructions the actual file names structure may vary depending on the particular product edition, version, build, and platform as describe here in our example:

Example File:

- Core RPM: **groundwork groundwork-monitor-core-5.0.1-41.rhel4.i386.rpm**

Example Structure: g r o u n d w o r k - r p m - w w - x . x . y - y y . z z z z . z z z z

- **groundwork** is the common prefix.
- **rpm** is the RPM type; **foundation** (Foundation), **monitor** (core), **monitor** (pro)
- **ww** is the GroundWork Monitor Edition; Open Source (**os**), Small Business (**sb**), or Professional (**pro**).
- **x.x** is the version number; Foundation **1.5**, GroundWork **5.0**.
- **y-yy** represents the build number; Foundation RPM **1-59**, Core RPM **1-41**, PRO RPM **1-70**.
- **zzzz.zzzz** is the platform; Red Hat **rhel4.i386** or SuSE **sles9**.

Downloading the RPM

You can download GroundWork Monitor Open Source 5.0 at http://www.groundworkopensource.com/downloads/mon_download.html. After the download, untar using the command **tar -xzvf GroundWorkMonitorOS_5.0.tar** which extracts the RPM.

Installing the Package

1. To perform the installation you need to be **root** on the system.
2. This installation places all files in the directory /**usr**/**local**/**groundwork**.
3. GroundWork's version of Apache is installed with this package. If you are running Apache on your system, it will be stopped during the installation process, but not removed. Any content served will be served by the GroundWork version of Apache, but you should be aware that patches applied using the usual patch distribution systems will not be applied to the running version of Apache.
4. The GroundWork Monitor Open Source package should be installed on a standalone system to avoid this scenario.
5. Install the RPM by entering the following command:

   OS RPM: This will install GroundWork Monitor Open Source version components.

   rpm -Uvh groundwork-monitor-osv-5.0.y-yy.zzzz.zzzz.rpm

Uninstalling the Package

Important Note: **rpm -e** removes all traces of GroundWork Monitor, including any config files. You should back up all the RRDs, config files, and log files at a minimum if you want to keep these around. It is good practice to do this whenever performing a software install.

1. To check which version you have installed, enter the command **rpm -qa | grep groundwork**.
2. Once you know your current installed version, enter the command as follows for the appropriate package:

   rpm -e groundwork-monitor-osv-5.0.y-yy

Accessing GroundWork Monitor Open Source 5.0

1. Go to the URL **http://<hostaddress>**/.
2. The default Administrator User ID and Password is **admin**/**admin**. Use this ID to define Users, Roles, and Packages.
3. The Administrator role also provides access to the Monarch configuration system, which allows you to configure the Nagios monitoring system.
4. An Operator role is pre-defined for you (Operator User ID and password is **joe**/**joe**) with access to GroundWork Monitor Open Source applications such as Status, Reports, and Bookshelf.
5. Nagios files are installed in the following directories:
   - Binaries: **/usr/local/groundwork/nagios/bin**
   - Configuration: **/usr/local/groundwork/nagios/etc**
   - Eventhandlers: **/usr/local/groundwork/nagios/eventhandlers**
   - Plugins: **/usr/local/groundwork/nagios/libexec**
   - Share: **/usr/local/groundwork/nagios/share**
   - Logs: **/usr/local/groundwork/nagios/var**
   - Command: **/usr/local/groundwork/nagios/var/spool**
   - CGIs: **/usr/local/groundwork/apache2/cgi-bin**

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8 UPGRADING FROM PREVIOUS VERSIONS

Upgrading from GroundWork Monitor Open Source 4.5 to GroundWork Monitor Open Source 5.0

Important Note: If you use a root password for MySQL it needs to be provided to the RPMs that perform the installation. Prior to launching any RPM commands you need to set the value of the MySQL root password as following:

1. Create an environment variable **MYSQL_ROOT** (all UPPERCASE) with the password value (e.g. **export MYSQL_ROOT=password**).
2. Set the root password as described in the below example:

   from command prompt# export MYSQL_ROOT=test

1. Downloading the RPM

   You can download GroundWork Monitor Open Source 5.0 at http://www.groundworkopensource.com/downloads/mon_download.html. After the download, untar using the command **tar -xzvf GroundWorkMonitorOS_5.0.tar** which extracts the RPM.
2. Backup custom changes you may have made to your GroundWork Monitor 4.5 system:
   - Plugins in /usr/local/groundwork/nagios/libexec
   - CGI Graphs in /usr/local/groundwork/apache2/cgi-bin/
   - Eventhandlers, for example performance eventhandlers in /usr/local/groundwork/nagios/eventhandlers
3. Backup your Nagios configuration files in /usr/local/groundwork/nagios/etc.

4. Backup your configuration database. Enter the command mysqldump monarch > monarch_backup.sql to create the backup file monarch_backup.sql.
5. Monarch Backup - Backup before removing 4.0 and restore after 5.0 installation these files and folders::

   /usr/local/groundwork/monarch/backup

   /usr/local/groundwork/performance/performance_views

   If you have done custom work to these files:

   /usr/local/groundwork/monarch/lib/MonarchCallOut.pm

   /usr/local/groundwork/monarch/lib/MonarchExternals.pm
6. Un-install GroundWork Monitor Open Source 4.5 with the command rpm -e groundworkmonitor.
7. Install GroundWork Monitor Open Source 5.0 on a new server.
8. Load your old database to the new database with the following procedure:

   mysql

   drop database monarch

   create database monarch

   exit

   cat monarch_backup.sql | mysql monarch
9. Copy your custom plugins to the new system's plugin directory.
10. Copy your custom CGI to the new system's CGI directory /usr/local/groundwork/apache2/cgi-bin/graph/. Use Configuration to change the references in the Host and Service extended info to URL /graphs/cgi-bin/<cgi_program>.
11. Copy your custom eventhandlers to the new system's eventhandler directory.
12. Restore the backups.
13. Restore your configuration:
    - The configuration is stored in the monarch database and the current state needs to be committed to Nagios.
    - Point your browser to **http://YOUR_SERVER/**.
    - Log into GroundWork Monitor Open Source as an Administrator (**admin**/**admin**).
    - Click **Application Launcher** and select the **Configuration** option.
    - Confirm your configuration by executing a **Pre Flight Test** in **Configuration**.
    - Execute a **Commit** in **Configuration** to implement the configuration in the new Nagios system.
    - Logout and login as the Operator (**joe**/**joe**) and check to see that all your Hosts and Services are accessible.

8.1 STEPS FOR 5 TO 5.X UPGRADE (PATCH UPGRADE)

Important Note: If you use a root password for MySQL it needs to be provided to the RPMs that perform the installation. Prior to launching any RPM commands you need to set the value of the MySQL root password as following:

1. Create an environment variable **MYSQL_ROOT** (all UPPERCASE) with the password value (e.g. **export MYSQL_ROOT=password**).
2. Set the root password as described in the below example:

   from command prompt# export MYSQL_ROOT=test

Downloading the RPMs

Download the 1 GroundWork Monitor Open Source RPM to a local folder on the machine you have GroundWork Monitor 4.5 installed. The packages are:

- **Core RPM:** groundwork-monitor-core-5.0.y-yy.zzzz.zzzz.rpm
- You can download GroundWork Monitor Open Source 5.0 at http://www.groundworkopensource.com/downloads/mon_download.html.
- After the download, untar using the command **tar -xzvf GroundWorkMonitorOS_5.0.tar** which extracts the RPM.

Upgrade from 5.0 to 5.x by entering the commands in the following sequence.

1. **Core RPM**. This will install GroundWork Monitor components.

   rpm -Uvh groundwork-monitor-core-5.0.y-yy.zzzz.zzzz.rpm

   Verify no errors when complete.

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3 SUPPORT/FEEDBACK/PROBLEM REPORTS/DISCUSSION

GroundWork Monitor Open Source Support

GroundWork Monitor Open Source 5.0 software is user supported. If you have problems, please review the GroundWork Support Forum at http://www.groundworkopensource.com/community/forums/. If you cannot find the answer, please inquire on the GroundWork Support Forum. Issues, such as bug reports, should also be reported using the GroundWork Support Forum at http://www.groundworkopensource.com/community/forums/. The forums are monitored by the GroundWork team.