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1 PURPOSE

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

The purpose of this "Installation" document is to outline system hardware requirements, pre-installation planning, and steps for a new installation or an upgrade of the GroundWork Monitor Professional 5.0 product. Additionally, the documents "Readme" and "Release Notes" include bug fixes and known issues; and new features in this release, respectively. All documents are distributed in .txt and .pdf formats.

2 SUPPORTED OPERATING SYSTEMS

GroundWork Monitor Professional now supports both 32-bit and 64-bit machines with an extended list of supported Operating Systems. 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 Professional on a dedicated server to ensure adequate performance, especially if there are a large number of devices to monitor via polling. The GroundWork Monitor Professional 5.0 RPM-based installer enables all components to be installed together on standard versions of commercial Linux distribution.

Current Supported OS for 32-bit Machines

GroundWork Monitor Professional 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 and 64-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

- Red Hat Enterprise Linux WS 4.0 64 bit
- Red Hat Enterprise Linux ES 4.0 64 bit
- SuSE Linux Enterprise Server 10.x 32 bit
- SuSE Linux Enterprise Server 10.x 64 bit

3 SOFTWARE PREREQUISITES

- MySQL Professional version 5.0.18 or higher
- Java SDK version 1.5

4 BROWSER RECOMMENDATIONS

GroundWork recommends the following web browsers when using GroundWork Monitor Professional:

- Firefox 1.x
- Internet Explorer 6.x

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.

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

6 PREREQUISITE INSTALLATION AND CONFIGURATION

Step 1 - Java Installation

Java is required, careful attention must be paid to the steps needed to properly configure the environment, specifically the JAVA_HOME and PATH environment variables. The typical Java Development Kit distribution comes as a bin file from Sun Microsystems. You can download the build 06 Sun JAVA SDK

1.5.0-06 i586 for Linux from this link http://www.groundworkopensource.com/downloads/JAVA/jdk-1_5_0_06-linux-i586-rpm.bin. **Note:** You must login to the GroundWork Support Center at <http://www.groundworkopensource.com/support/index.html> to download from this link. If you try to download the file directly, without logging into the Support Center first, you will receive an access denied error. Or go to the Sun Microsystems site at <http://www.sun.com/> for the latest build.

1. Copy the file into a temporary folder on your hard disk.
2. Make the file executable with the command **chmod+x <filename>**.
3. Execute the binary file (e.g. **./jdk-1_5_0_06-linux-i586-rpm.bin**), which will extract the installable rpm file.
4. You will be prompted to accept the license.
5. Make sure you are **root**. Install the Java SDK by running the command:
rpm -Uhv jdk-1_5_0_06-linux-i586.rpm
The installer puts all files into: **/usr/java**
6. Set the environment variable: **JAVA_HOME**
You will need to add the following two environment variables to: **/etc/profile**
export JAVA_HOME=/usr/java/jdk1.5.0_06
export PATH=\$PATH:\$JAVA_HOME/bin:\$PATH
7. In most Linux systems **/usr/bin/java** is a link to **/etc/alternatives/java** which is another link to the java executable. If this is the case you will need to update **/etc/alternatives/java** so that it points to your installation of the Java SDK command **ln -sf \$JAVA_HOME/bin/java /usr/bin/java**.

Step 2 - 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 3 - Perl-DBI Installation

GroundWork Monitor Professional 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://www.groundworkopensource.com/downloads/files/mysql/perl-DBI-1.40-5.i386.rpm>. **Note:** You must login to the GroundWork Support Center at <http://www.groundworkopensource.com/support/index.html> to download from this link. If you try to download the file directly, without logging into the Support Center first, you will receive an access denied error.

Step 4 - MySQL Configuration

MySQL 5 is distributed with GroundWork Monitor Professional, and is licensed as a commercial package. GroundWork Monitor Professional does not install unless the commercial MySQL release is installed. Installing GroundWork Monitor Professional will not delete any existing databases, and uninstalling will leave all databases alone, even the GroundWork databases. GroundWork Monitor Professional requires the following packages (version 5.0.18 or higher) to be installed on the system. You must upgrade MySQL to the MySQL PRO version. 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 fails to start. 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)

1. Login to the **Support Portal** at <http://www.groundworkopensource.com/support/>.
2. Select the link **Downloads>>**.
3. Under **GroundWork Monitor Releases**, select the link for the GroundWork Monitor product you are using (e.g. Professional 5.0, Small Business 5.0).
4. Next, under the displayed platforms (e.g. RHEL4, SES9) select **32** or **64** bit.
5. Under the **Solutions** section select the link for **MySQL Pro**.
6. The links to the required RPMs will be listed. Select to **download**.

Installing MySQL Pro

1. 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 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

Step 5 - 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.

7 NEW INSTALLATION

Installation of GroundWork Monitor Professional 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 Professional components in 3 RPM files:

1. **Foundation RPM:** `groundwork-foundation-pro-1.5.y-yy.noarch.rpm`
2. **Core RPM:** `groundwork-monitor-core-5.0.y-yy.zzzz.zzzz.rpm`
3. **PRO RPM:** `groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.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 Files:

- Foundation RPM: **groundwork-foundation-pro-1.5.1-59.noarch.rpm**
- Core RPM: **groundwork groundwork-monitor-core-5.0.1-41.rhel4.i386.rpm**
- PRO RPM: **groundwork-monitor-pro-5.0.1-70.noarch.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 RPMs

If you are a GroundWork customer and have licensed GroundWork Monitor Professional, full product downloads, including over 40 monitoring profiles, are available via our customer support section.

1. Login to the **Support Portal** at <http://www.groundworkopensource.com/support/>.
2. Select the link **Downloads>>**.
3. Under **GroundWork Monitor Releases**, select the link for the GroundWork Monitor product you are downloading (e.g. Professional 5.0, Small Business 5.0).
4. Next, under the displayed platforms (e.g. RHEL4, SES9) select **32** or **64** bit.
5. Under the **Solutions** section select the link for the GroundWork Monitor product you want to download (e.g. GroundWork Monitor Professional v5.0 i386 for Red Hat).
6. Select the link to download the RPMs (e.g. <http://www.groundworkopensource.com/downloads/Monitor/Pro5.0/login.php>).
7. Enter the indicated **Username** and **Password**.
8. After the download, untar using the command appropriate for your product edition:

GWMPRO: **tar -xzf GroundWorkMonitorPro_5.0.tar.gz** which extracts the 3 RPMs and current Installation, Readme, and Release Notes files.

GWMSB: **tar -xzf GroundWorkMonitorSB_5.0.tar.gz** which extracts the 2 RPMs and current Installation, Readme, and Release Notes files.

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 Professional package should be installed on a standalone system to avoid this scenario.

Install the RPMs by following these steps in sequence:

1. **Foundation RPM.** This will install the GroundWork Foundation components.

rpm -Uvh groundwork-foundation-pro-1.5.y-yy.noarch.rpm

Verify no errors when complete.

2. **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.

3. **PRO RPM.** This will install GroundWork Monitor Professional version components.

rpm -Uvh groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.rpm

Verify no errors when complete.

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- w w-x.x.y-yy.zzzz.zzzz**

Accessing GroundWork Monitor Professional 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, Groups, Roles, and Packages.
3. The Administrator role also provides access to the Configuration option, 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 Professional applications such as Status, Reports, and Bookshelf. 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**

8 UPGRADING FROM PREVIOUS VERSIONS

Upgrade from GroundWork Monitor Professional 4.5 to GroundWork Monitor Professional 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 RPMs

Download the 3 GroundWork Monitor Professional RPMs to a local folder on the machine you have GroundWork Monitor 4.5 installed. The packages are:

- **Foundation RPM:** groundwork-foundation-pro-1.5.y-yy.noarch.rpm
- **Core RPM:** groundwork-monitor-core-5.0.y-yy.zzzz.zzzz.rpm
- **PRO RPM:** groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.rpm

If you are a GroundWork customer and have licensed GroundWork Monitor Professional, full product downloads, including over 40 monitoring profiles, are available via our customer support section.

1. Login to the **Support Portal** at <http://www.groundworkopensource.com/support/>.
 2. Select the link **Downloads>>**.
 3. Under **GroundWork Monitor Releases**, select the link for the GroundWork Monitor product you are downloading (e.g. Professional 5.0, Small Business 5.0).
 4. Next, under the displayed platforms (e.g. RHEL4, SES9) select **32** or **64** bit.
 5. Under the **Solutions** section select the link for the GroundWork Monitor product you want to download (e.g. GroundWork Monitor Professional v5.0 i386 for Red Hat).
 6. Select the link to download the RPMs (e.g. <http://www.groundworkopensource.com/downloads/Monitor/Pro5.0/login.php>).
 7. Enter the indicated **Username** and **Password**.
 8. After the download, untar using the command appropriate for your product edition:

GWMPRO: **tar -xvzf GroundWorkMonitorPro_5.0.tar.gz** which extracts the 3 RPMs and current Installation, Readme, and Release Notes files.

GWMSB: **tar -xvzf GroundWorkMonitorSB_5.0.tar.gz** which extracts the 2 RPMs and current Installation, Readme, and Release Notes files.
2. Backup existing RRD files and current Nagios configuration. This will create three TAR files in the current repository.
 - **tar cfz GWMON-Pro45-rrd.tar.gz /usr/local/groundwork/rrd**
 - **tar cfz GWMON-Pro45-nagios.tar.gz /usr/local/groundwork/nagios/etc**
 - **tar cfz GWMON-Pro45-users.tar.gz /usr/local/groundwork/users**
 3. Monarch Backup
 - **tar cfz GWMON-Pro45-monarchbackup.tar.gz /usr/local/groundwork/monarch/backup**
 - **tar cfz GWMON-Pro45-performance.tar.gz /usr/local/groundwork/performance/performance_views**

If you have done custom work to these files:

 - **tar cfz GWMON-Pro45-monarchcallout.tar.gz /usr/local/groundwork/monarch/lib/MonarchCallOut.pm**
 - **tar cfz GWMON-Pro45-monarchexternals.tar.gz /usr/local/groundwork/monarch/lib/MonarchExternals.pm**
 4. Uninstall GroundWork Monitor 4.5
 - To obtain the current version run **rpm -qa |grep groundwork**.

- Use the package name to uninstall. If the package name is **groundwork-monitor-pro-4.5.26** run the command **rpm -e groundwork-monitor-pro-4.5.26**.
 - Verify that no instances of SNMP Trap translators SNMPTT are running with the command **ps aux |grep snmptt**. If any instances are running kill the processes with the command **kill -9 ProcessID**.
5. Upgrade install GroundWork Monitor Professional 5.0
- In your shell set an environment variable **export MIGRATE4550=yes**
 - Install the RPMs by following these steps in sequence:
 1. **Foundation RPM**. This will install the GroundWork Foundation components.
rpm -Uvh groundwork-foundation-pro-1.5.y-yy.noarch.rpm
 Verify no errors when complete.
 2. **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.
 3. **PRO RPM**. This will install GroundWork Monitor Professional version components.
rpm -Uvh groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.rpm
 Verify no errors when complete.
6. Restore the RRD created by GroundWork Monitor 4.5
- **tar xzf GWMON-Pro45-rrd.tar.gz -C/**
 - change the permission for the rrd files: **chmod -R nagios.nagios /usr/local/groundwork/rrd**
 - **tar xzf GWMON-Pro45-monarchbackup.tar.gz -C/**
 - **tar xzf GWMON-Pro45-performance.tar.gz -C/**
 - **tar xzf GWMON-Pro45-monarchcallout.tar.gz -C/**
 - **tar xzf GWMON-Pro45-monarchexternals.tar.gz -C/**
 - **tar xzf GWMON-Pro45-nagios.tar.gz -C/**
 - **tar xzf GWMON-Pro45-users.tar.gz -C/**
7. 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 Professional as an **Administrator (admin/admin)**.
 - Click the **Application Launcher** and select the **Configuration** option.
 - Select the **Control** option.
 - Select **Commit**.
 - 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 3 GroundWork Monitor Professional RPMs to a local folder on the machine you have GroundWork Monitor 4.5 installed. The packages are:

- **Foundation RPM:** groundwork-foundation-pro-1.5.y-yy.noarch.rpm
- **Core RPM:** groundwork-monitor-core-5.0.y-yy.zzzz.zzzz.rpm
- **PRO RPM:** groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.rpm

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3. Under **GroundWork Monitor Releases**, select the link for the GroundWork Monitor product you are downloading (e.g. Professional 5.0, Small Business 5.0).
4. Next, under the displayed platforms (e.g. RHEL4, SES9) select **32** or **64** bit.
5. Under the **Solutions** section select the link for the GroundWork Monitor product you want to download (e.g. GroundWork Monitor Professional v5.0 i386 for Red Hat).
6. Select the link to download the RPMs (e.g. <http://www.groundworkopensource.com/downloads/Monitor/Pro5.0/login.php>).
7. Enter the indicated **Username** and **Password**.
8. After the download, untar using the command appropriate for your product edition:

GWMPRO: **tar -xzf GroundWorkMonitorPro_5.0.tar.gz** which extracts the 3 RPMs and current Installation, Readme, and Release Notes files.

GWMSB: **tar -xzf GroundWorkMonitorSB_5.0.tar.gz** which extracts the 2 RPMs and current Installation, Readme, and Release Notes files.

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

1. **Foundation RPM.** This will install the GroundWork Foundation components.
rpm -Uvh groundwork-foundation-pro-1.5.y-yy.noarch.rpm
Verify no errors when complete.
2. **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.
3. **PRO RPM.** This will install GroundWork Monitor Professional version components.
rpm -Uvh groundwork-monitor-pro-5.0.y-yy.zzzz.noarch.rpm
Verify no errors when complete.

9 SUPPORT/FEEDBACK/PROBLEM REPORTS/DISCUSSION

GroundWork Monitor Professional Support

Product support is available through a GroundWork subscription agreement. GroundWork Subscription Customers have full access to a range of support offerings, including our enterprise knowledgebase, download area and trouble-ticket center. For a complete overview of our support offerings and severity level descriptions, please go to GroundWork Support at <http://www.groundworkopensource.com/support/options.html> or email us at support@groundworkopensource.com.

Existing subscription customers can access support online by logging into the GroundWork Support Center at <http://www.groundworkopensource.com/support/>. Usernames and passwords are provided to you by your GroundWork representative. Please see the GroundWork Community Page at <http://www.groundworkopensource.com/community/>.