

System Requirements

Overview

This page reviews the GroundWork Monitor system requirements for version 7.2.1.

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Hardware and Resource Requirements

GroundWork recommends the following minimum hardware specification for basic operation:

- 64-bit architecture
- 2 CPU
- 4 GB RAM
- 30 GB disk

The installer will complain and require you to override it when installing with less than these minimums.

If you are deploying to an environment that has any significant complexity, there are a number of additional considerations for allocating resources. Support can help you size your system, but a good starting point for reference is the following:

- 4 or more CPUs
- 32 GB RAM
- 100 GB disk

There is not a formula based on number of hosts, for example. This is because you will almost certainly make choices that dramatically affect the time required to execute polling, the frequency of data collection, and volume of data stored. All of these will change the resource requirements.

OS Platform Requirements

GroundWork Monitor Enterprise Edition has been tested on the following platforms:

- Red Hat Enterprise Linux 7, 64-bit
- CentOS 7, 64-bit
- SUSE Linux Enterprise Server 12, 64-bit
- Ubuntu 16.04 LTS and 18.04 LTS, 64-bit. Ubuntu 16.04 LTS reaches end-of-life in April 2021. Ubuntu 14.04 LTS will be EOL in April 2019, so while it will work, it is not recommended for new installations.



Special Considerations for Virtualized Environments

Monitoring inherently has a continuous high-load resource profile. This must be taken into account when deciding whether to run in a virtualized environment, and if so, when allocating resources to a virtual host running the monitoring. If you try to install on a virtual host which has too much contention from other VMs on the same host, results are likely to be disappointing.

If you are installing in a virtualized environment, particularly VMware ESX, using a single virtual CPU is generally recommended. As with a standalone machine, a 64-bit virtual machine is required for the GroundWork Monitor Enterprise 7.2.1 release. Installation of VMware tools and configuration of host time synchronization is essential in all VMware environments.

System Configuration and Operating System Settings

Please read the following requirements carefully before you install GroundWork Monitor Enterprise packages:

- The host name of the GroundWork Monitor server **must** be resolvable with DNS to its external interface's address, both from the server itself and the workstations and other servers that will use it. This is a hard requirement and GroundWork **will not work** if the name does not resolve. An entry in the `/etc/hosts` file with the server IP and hostname is recommended, for example:

```
1.2.3.4    myhost.example.com myhost
```

- Time and date must be accurate on the systems running GroundWork, and preferably synchronized to a time server using NTP or a similar method. Time Zone should be set correctly.
- GroundWork Monitor Enterprise 7.2.1 must be installed on a 64-bit system.
- The GroundWork installer must be able to install into the `/usr/local/groundwork/` file tree.
- The `uid` and `gid` of the `root` user must both be 0.
- The default group for the `root` user must be `root`.
- The `nagios` user and group must be local to the system and not provided via directory services. Ideally, for a fresh install, these user/group names do not already exist on the system.
- If the `nagios` user exists (not necessary), the default group for `nagios` must be `nagios`.
- Make sure that the system you install to does not have a pre-installed Apache server or PostgreSQL database.
- The partition that GroundWork Monitor is installed to must allow `setuid` execution.
- If SELinux is installed, disable it prior to installation. The permissive setting is insufficient; it must be set to disabled. You can re-enable it after install.

`/etc/selinux/config`

```
SELINUX=disabled
```

Disable it immediately, prior to running the GroundWork binary installer:

```
setenforce 0
```

- Please ensure that `libX11` is installed prior to installing GroundWork. For example, on Red Hat or Centos systems the commands:

```
yum groupinstall base
yum install libX11
```

will ensure the libraries needed are present.



Special Configuration for Virtualized Environments

- If GroundWork Monitor Enterprise is deployed under VMware, resource allocation is critical to performant operation of the monitoring. For a small-to-medium installation, only allocate 1 CPU to the virtual machine; allocating more CPUs can sometimes result in worse performance. For large installations, the situation is more complex, and testing is required to get optimal settings. (A full discussion of VMware configuration is beyond the scope of this install guide, but you can request assistance in sizing your installation from GroundWork support.)
- In a virtualized environment, a memory **reservation** of 4 GB should be considered the absolute minimum. A memory reservation of 8 GB or larger is generally recommended. A memory **allocation** of 8 GB (or ideally more) should be applied to the VM.
- If GroundWork Monitor Enterprise is deployed under VMware, running X Windows on that VM is strongly discouraged. High rates of interrupts from the windowing system can have a significant negative effect on performance in a virtualized environment, due to the extra overhead of switching CPUs between VM guest hosts.

Java Compatibility

GroundWork Monitor specifically requires Sun Microsystems' Java SDK version 1.7 Update 76. This software is included in the GroundWork installation bundle. Note that this can be upgraded, and we supply instructions for doing so for version 7.1.1 [here](#). This same procedure can be used for 7.2.1. You can also use the Azul release of java, which is well maintained as of this writing, and may be the most up-to-date available. Under some circumstances, other Java packages can interfere with the Sun provided software, but generally as of 7.2.1, there is little chance of this. Still we recommend not using any separate JVM to run other java programs on the same machine as GroundWork.

Externally Defined User `nagios`

GroundWork Monitor uses the user account named `nagios` for access control to several components in the system. For this reason we prefer

that the `nagios` user NOT exist prior to installation; the installer will then create the user and group, its home directory, and its dot-file setup in the manner we require. If you have any of the following conditions:

- The `nagios` user is already defined on the system.
- You have modified `/etc/nsswitch.conf` to support maintaining this user in some place other than local password/shadow/group files.
- You are using external authentication of another kind (e.g., LDAP) with the `nagios` user defined in a way that will inhibit the GroundWork installer from creating this user and its home directory.

Then you must disable and remove all traces of the `nagios` user before the installation. To reenabte such prior setup after the installation, you must take whatever steps are necessary to ensure that the user number is the same as that used by the GroundWork-installed user `nagios`. Also note that if the `nagios` user already exists before the installation, the `nagios` home directory is assumed to exist, and reside at `/usr/local/groundwork/users/nagios`.

Requirements for a Separate PostgreSQL Database Location

In a simple install, the PostgreSQL databases will reside on the GroundWork Monitor system itself, but you may prefer to run the databases on a separate machine, see [Remote Database Installation](#). The database server supports the same Operating Systems as GroundWork Monitor, which are:

- Red Hat Enterprise Linux 7, 64-bit
- CentOS 7, 64-bit
- SUSE Linux Enterprise Server 12, 64-bit
- Ubuntu 16.04 and 18.04 LTS, 64-bit

The minimal system requirements for a separate database install are:

- 64-bit CPU (required)
- 4 GB RAM
- 80 GB disk



Postgres won't actually use more than 8GB of RAM, so allocation of more than 8 GB is not necessary or recommended).