

BOINCOS User Manual Alpha v1.0

Contents:

Installation	1
Boot Options	1
Logging In	1
Networking	2
Ethernet	2
Wireless	2
Entering the Graphical Environment	3
Starting the BOINC Daemon	3
Bundled Utilities	3
Reporting Issues	4

Installation:

BOINCOS is packaged into a raw disk image format and it must be noted that the size of the uncompressed image is 8GB.

Requirements:

- An 8GB USB or greater
- A computer with a functioning operating system
- Disk imaging software (such as [Rufus](#) or [Etcher](#))
- An archival program that can extract .zip archives
- Optional: Program that can perform file hashes

Steps:

1. Download the compressed image from the official repository
2. Decompress the image file **(This file will decompress to 8GB)**
3. Optional: Perform a checksum on the file and compare with the provided hashes
4. Execute the chosen imaging software and write the decompressed image to the USB medium

Boot Options:

When the OS is booted, the user will be presented with two boot options:

1. BOINCOS - Intel and AMD GPUs
2. BOINCOS - Nvidia GPU

Option 1:

Recommended for Intel integrated graphics and AMD graphics cards. This boot line is generic (default arguments passed to the init-image) and should perform the appropriate modesetting for the video drivers in kernel space.

Option 2:

Recommended for Nvidia graphics cards. This boot line has nomodeset added so that the “nvidia-dkms” driver can be set when the display environment is started.

References:

- Drivers compatibility:
https://wiki.archlinux.org/index.php/Xorg#Driver_installation

Logging In:

There are two active user accounts on this version, “root” and “boincuser”. Each of their passwords are a single space. When initiating the graphical environment, the user must be logged in as “boincuser”.

Networking:

At the current stage of development there are no network managers available for the user to utilise for the handling of an internet connection. Connection to the internet is however enabled through the conjunction of “netctl”, “dhcpcd” and “wifi-menu”.

Ethernet:

This assumes the computer is connected via an ethernet cable to a router or modem that supports dhcp and the user has logged in as “boincuser”. You can test if you are connected by typing a ping command in a terminal such as “ping -c 3 archlinux.org”.

Steps:

1. Get the name of the currently used ethernet interface by typing “ip addr show” into the terminal and searching for a name that is unindented on the left that is similar to an ethernet connection. (e.g “eth0”, “eno1”, “enp2s3”, etc)
2. Type the following command and replace “[iface name]” with the name found in step 1: “sudo ip link set [iface name] up”.
3. Type “sudo dhcpcd [iface name]” replacing “[iface name]” with the name found in step 1.

Wireless:

This assumes the computer has a connected or inbuilt wireless adaptor that has the appropriate modules installed that allow it to function and be recognised by the OS in addition to being logged in as “boincuser”.

Steps to set up a new Wi-Fi network:

1. Type “sudo wifi-menu” and select the network you wish to join by pressing enter on the highlighted selection.
2. Replace the default name that you are prompted with to something memorable or simple, otherwise leave as is and press enter to continue. The name that you have entered will be referred to as “[net name]” for the remainder of the wireless sets of steps.
3. When prompted, type the password of the network and press enter.
4. Wait a few seconds after being returned to the terminal prompt before running a “ping” command as referenced above in order to test if you are connected. If unsuccessful, follow the next set of steps.

Steps to connect to a pre-configured Wi-Fi network:

1. Type “sudo netctl start [net name]”
2. If you are prompted with an error, you may have typed in an incorrect password. In that case type “sudo nano /etc/netctl/[net name]” and edit the line that contains the password for the network. (press ctrl+o and enter to save, press ctrl+x to exit)
3. Test your connection by running a “ping” command as referenced above

If none of the above steps worked, you may have a wireless adaptor that is not supported by the system.

References:

- Ethernet (dhcpcd): <https://wiki.archlinux.org/index.php/Dhcpcd>
- Wireless network configuration:
https://wiki.archlinux.org/index.php/Wireless_network_configuration
- Netctl: <https://wiki.archlinux.org/index.php/Netctl>
- Troubleshooting references:
https://wiki.archlinux.org/index.php/Network_configuration#Troubleshooting

Entering the Graphical Environment:

Simply login as “boincuser” and type “startx” into the terminal.

You should see a small amount of text be displayed before you are brought to a GUI. If this does not happen and the output says some sort of error occurred, please report this problem along with the file “/var/log/Xorg.0.log” (see reporting bugs section)

Starting the BOINC Daemon:

Simply type “sudo systemctl start boinc” into the terminal.

You can check to see if the process is running by checking the system monitor or typing a command such as “pstree | grep boinc” and looking for an output.

Bundled Utilities:

Here is a summary of useful programs that are not apart of the base installation:

- boincmgr - The boinc manager software
- htop - Terminal based system monitor
- [Min](#) - Simplistic web browser
- gnome-system-monitor - A graphical and simple system monitor
- gnome-terminal - A user-friendly terminal emulator

Reporting Issues:

In both methods of reporting it is recommended to include as much information as possible to describe the issue including:

- The full set of specifications of the computer BOINCOS is being run on.
- Steps that were taken before the issue occurred and a description of how it can be reproduced.
- Any logs that are associated with the issue.

Email a Developer:

It is advised to contact a developer if you think that the issue is trivial, you do not have enough information to back it up and require help in accessing the required information to create an issue in the GitHub repository or if the issue is major and releasing the information to the public may affect the security of the system or reveal critical flaws in the design.

Developer emails:

- boincosdelta@gmail.com - Founder and main developer

Make a Github Issue:

It is advised to make a [Github issue](#) on the official BOINCOS repository if the issue has information backing it or is a request for functionality and support that is not planned within the milestones of the project.

The official BOINCOS GitHub repository can be found [here](#).