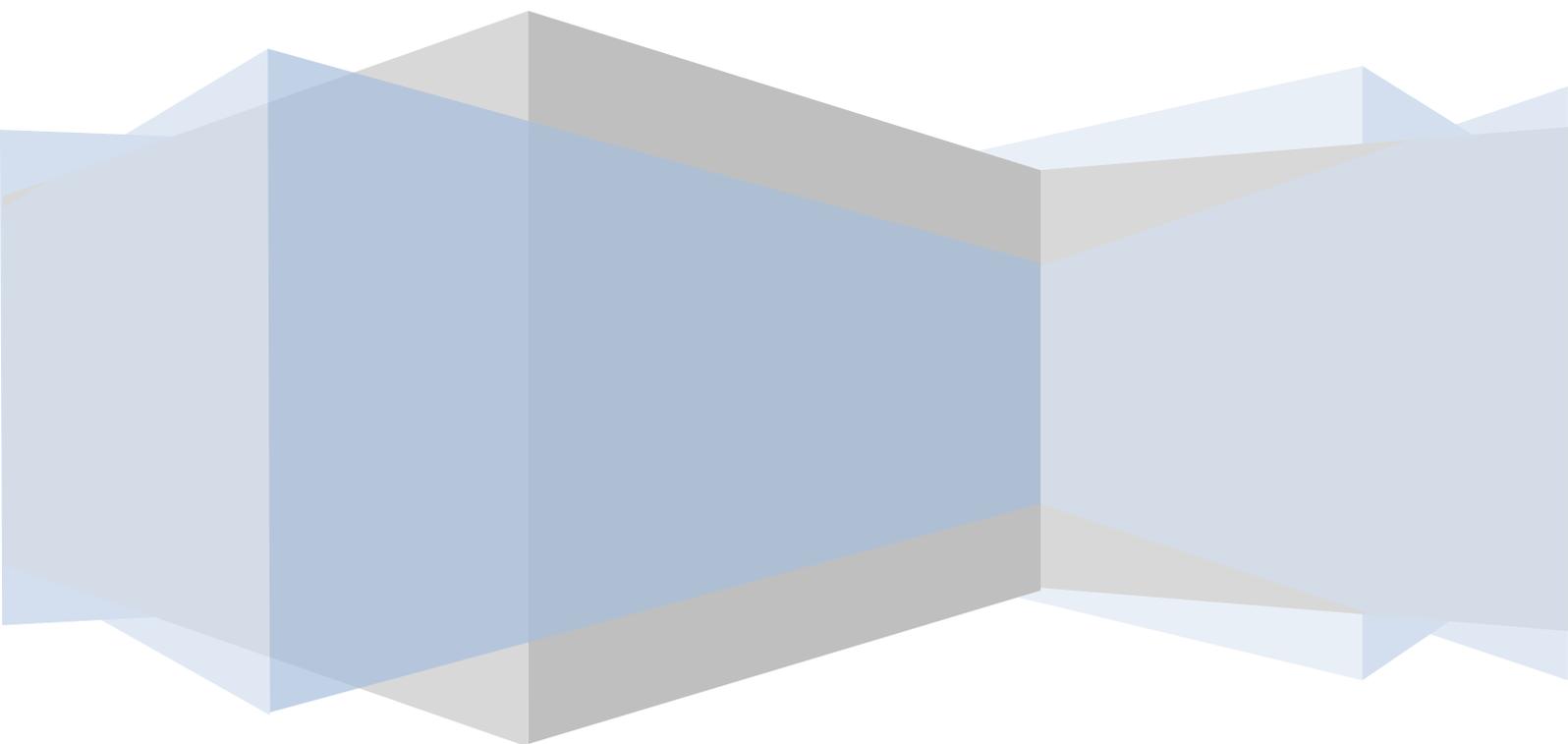


MyNAS[®] Storage Appliance Installation Guide

Release 2.0 (Aberfeldy)

Alex Braunegg

Document Version 0.1



Contents

Preface	4
Why use MyNAS?	4
Pre-Installation Planning.....	5
Operating System.....	5
Hardware Requirements.....	5
Minimum Requirements	5
Minimum Recommended Requirements.....	5
ECC Memory Support.....	5
Advanced Requirements.....	5
Web Browser Requirements.....	6
Optional Requirements.....	6
Network Access Requirements	6
MyNAS® Storage Appliance Platform Compatibility	7
Recommended MyNAS® Storage Appliance Platform.....	7
Information Needed to Install MyNAS® Storage Appliance	8
Fresh Installation.....	8
Updating MyNAS.....	8
Installing MyNAS® Storage Appliance.....	9
Obtaining MyNAS® Storage Appliance Installation Media	9
Creating a bootable DVD from the MyNAS® Storage Appliance ISO	9
Windows 7 / Windows 8.x / Windows 10.....	9
Other Operating Systems.....	11
Installing MyNAS® Storage Appliance on a Bare Metal Server.....	12
Installing MyNAS® Storage Appliance under VMware ESXi.....	16
Installing MyNAS® Storage Appliance under Oracle VM VirtualBox	23
Initial Configuration of MyNAS® Release 2.0 (Aberfeldy) via the MyNAS CLI	27
Configuring MyNAS® Network Settings.....	27
Initial Configuration of MyNAS® Release 2.0 (Aberfeldy) via the MyNAS WebUI.....	29
Logging into the MyNAS WebUI for the first time as 'admin'	29
Download and Install the MyNAS Storage Appliance Root CA	31
Download the MyNAS Storage Appliance Root CA.....	31
Importing the MyNAS Storage Appliance Root CA as a Trusted Certificate	33
Logging into the MyNAS WebUI for the first time as 'enable'	42
Running the MyNAS Configuration Wizard.....	43

Configure the MyNAS Hostname	44
Configure the MyNAS Basic Network Settings.....	45
Optional: Configure the MyNAS Advanced Network Settings	46
Configure the MyNAS Time Zone setting.....	48
Configure the MyNAS Date and Time setting	49
Configure the MyNAS System Event Notification setting	50
Configure the MyNAS ZFS Disk allocation.....	53
Configure MyNAS Uninterruptable Power Supply (UPS) Support	54
Configure MyNAS Automatic Updates Support.....	55
Configure MyNAS Internet Access Configuration	56
Configure MyNAS Remote Syslog Configuration	57
Confirming the settings from the Configuration Wizard	58
Registering your MyNAS® Storage Appliance.....	62
MyNAS® Storage Appliance Licensing Models	67
Upgrading your MyNAS® Storage Appliance from an Evaluation License.....	69
Upgrading or Renewing your MyNAS® Storage Appliance License	72
Appendix A - Network Ports used for MyNAS® Storage Appliance	74
Incoming Connections.....	74
Outgoing Connections.....	74

Preface

Welcome to the MyNAS® Storage Appliance Installation Guide. This guide will help you getting "up and running" with MyNAS Storage Appliance on your hardware, and assisting with initial configuration of MyNAS Release 2.0 (Aberfeldy).

Why use MyNAS?

Ask yourself this question: Where do I store all my important digital assets today – assets such as photo's, video's, taxation documents, school projects or assignments, work documents, email, backups?

In today's society, it is fairly rare to not have some form of a digital footprint – from taking photo's to Facebook, email, typing up that essay for class – we all create some form of digital data that is saved on our devices at work or at home. We all have that 1 photo, video or document we do not want to loose.

It was not that long ago that our important data such as student assignments was stored on 'good old' floppy disks – and then we saved many times to different disks as a backup. We acted like this as it was common for our main floppy disk to fail or become corrupt – right when we need it the most (Murphy's Law). Whilst technology has significantly improved the reliability of our devices and systems we seem to have taken a backward step in our reliance on having multiple backups to keep our data safe.

Regardless of technological advances, these devices and systems are not immune to failure – malware and malicious activities plague us today in one shape or another; disk corruption can and does occur on a frequent basis, with the corruption sometimes occurring silently in the background without you knowing.

So back to the original question – where do you store all your important digital data? On your laptop, on your desktop, on an external portable drive? What happens if any one of those fail? Will you loose all your data? What happens if it get's lost, damaged (fire, water, dropped, crushed) or stolen? Can you somehow recover your important data?

MyNAS® Storage Appliance provides an easy-to-use solution for you to store all your important digital data in a robust and secure manner by utilising enterprise grade technology so that you can be confident that your data integrity is assured and your important digital data is safe.

Pre-Installation Planning

Operating System

The MyNAS® Storage Appliance provides a purpose-built and performance-tuned 64-bit operating system.

Hardware Requirements

The minimum requirements specified provides enough resources to properly use MyNAS® Storage Appliance in home to small business (SMB) environments. Enabling additional functionality may increase these minimum requirements.

MyNAS® Storage Appliance is not intended to replace the firmware on traditional NAS hardware.

Minimum Requirements

- Single 1.0 Ghz 64-bit CPU which supports ECC Memory
- 2GB RAM
- 10GB of disk space. MyNAS will automatically partition selected drive during the installation process
- Monitor that supports 1024 x 768 resolution
- 2 additional hard disk drives for ZFS data storage as a ZFS 2-Way Mirror

Note: A Total hard disks required for a minimum installation is 3

Minimum Recommended Requirements

- Single 2.0 Ghz 64-bit CPU which supports ECC Memory
 - <http://ark.intel.com/Search/Advanced?s=t&ECCMemory=true>
- Motherboard which supports ECC Memory
 - <http://ark.intel.com/#@BoardsAndKits>
 - <http://www.supermicro.com/products/motherboard/>
- 4GB ECC RAM (Minimum)
- 10GB of disk space via 2 independent drives.
 - MyNAS will automatically partition and create a RAID1 mirror of the selected drives during the installation process
- 4 spare drives for ZFS data storage as a ZFS Raidz-1

Note: A Total hard disks required for a minimum recommended installation is 6

ECC Memory Support

If your system can take advantage of ECC (Error Correcting Code) Memory, it is highly recommended to use this type of memory rather than standard memory. ECC memory provides the following benefits:

- Error correcting code that enables the detection and correction of memory errors
- Memory errors cause unpredictable data problems

Advanced Requirements

- 2 Solid State Disks (SSD) for ZFS write cache
- 1 Solid State Disk (SSD) for ZFS read cache
- 1 or more disks as spare disks

Web Browser Requirements

Supported and tested web browsers are:

- Google Chrome
 - Version 50.0.2661.102 or higher
 - Windows 7 or higher, Linux, OS X

Note: Microsoft Internet Explorer, Microsoft Edge, Firefox and Safari are not supported for the MyNAS Web interface.

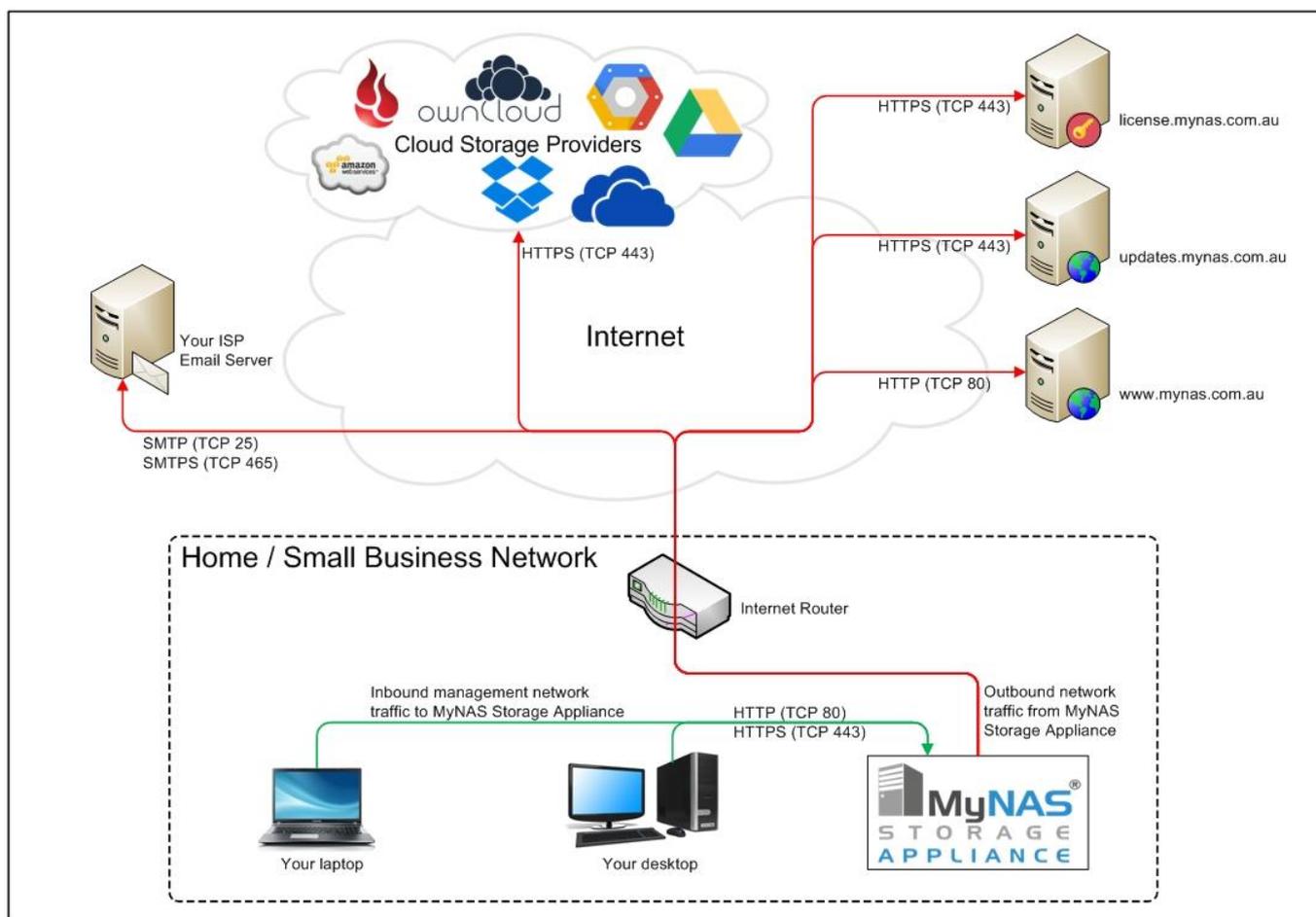
Optional Requirements

- Uninterruptable Power Supply (UPS) to provide clean power and capability for safe shutdown in the event of a power outage

Network Access Requirements

Depending on your network where you are installing your MyNAS Storage Appliance, you may require further configuration of devices such as your Internet router or firewall to allow your MyNAS Storage Appliance to communicate with external services.

Use the diagram below to aid with configuring this if required in your environment.



Additional network access from your laptop, your desktop or DLNA devices to your MyNAS Storage Appliance will also be required depending on what services you enable.

MyNAS® Storage Appliance Platform Compatibility

MyNAS should install and operate without issue on many brands of "off-the-shelf" platforms. Additionally, MyNAS should also install and operate without issue on any "whitebox / home built" platforms. However, MyNAS cannot guarantee 100% compatibility with all brands and models of all permutations of hardware combinations. In general, refer to the CentOS Hardware Compatibility List (HCL) for further details:

<http://wiki.centos.org/HardwareList>

A further list of hardware known to be compatible with MyNAS is listed on the MyNAS website at:

<http://www.mynas.com.au/hardware-compatibility-list/>

Recommended MyNAS® Storage Appliance Platform

If you prefer to buy a complete system for your MyNAS Storage Appliance, the HP MicroServer range is highly suitable for MyNAS. This hardware platform also supports ECC memory, thus provides a great base from which to start from.

Information Needed to Install MyNAS® Storage Appliance

The MyNAS setup process prompts you for some required information during the installation process. This includes:

- Language
- Keyboard
- Time zone
- User account passwords
- Installation method

Note: MyNAS utilises DHCP for the initial networking configuration. The IP address that the system is configured with initially will be displayed once the system is rebooted after the initial install is complete.

If no DHCP Server is available, MyNAS will not configure an IP address. In this event, the MyNAS CLI can be used from the system console to manually configure an IP address for the system to use.

Fresh Installation

MyNAS only supports a fresh installation. Installing over an existing MyNAS installation will erase that configuration. User data on any of the selected drives for the install will be destroyed. Any data on drives not selected will be untouched.

Restoration of your configuration from a valid backup file can occur.

Updating MyNAS

The simplest method to upgrade MyNAS to a new version is to perform a system update. This is done from the MyNAS WebUI when using the "enable" privilege level.

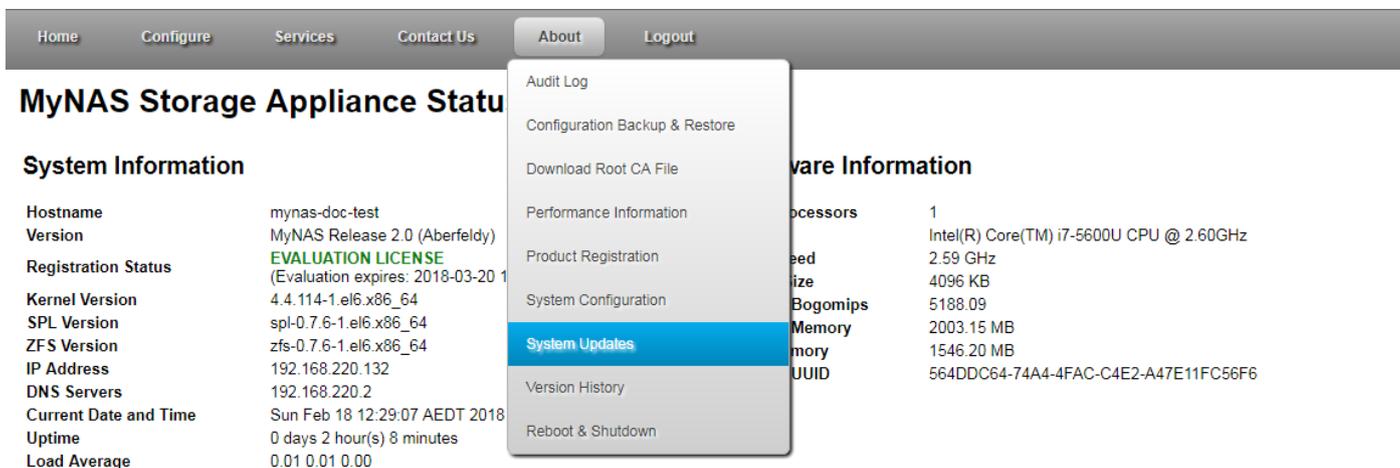
Note: Starting with MyNAS Storage Appliance v1.4, application functionality and product updates are only available to registered MyNAS Storage Appliance's that are either in a valid evaluation or active subscription state.

If there are any updates available, this will be displayed on the right hand side of the menu bar as illustrated below:



Clicking on the orange circle(🔄) will initiate the update process and will display any available updates for your system. From there you can choose to update your MyNAS Storage Appliance or cancel.

Alternatively, when using the 'enable' account, you can select 'System Updates' from the 'About' menu:



This will check the MyNAS Update server manually and display any available updates for your system.

Installing MyNAS® Storage Appliance

This section details the following steps in order to install MyNAS on your system:

- Obtaining MyNAS
- Creating a bootable DVD to install MyNAS from
- Installing MyNAS on a Bare Metal Server
- Installing MyNAS as Virtual Machine under VMware or Oracle Virtual Box

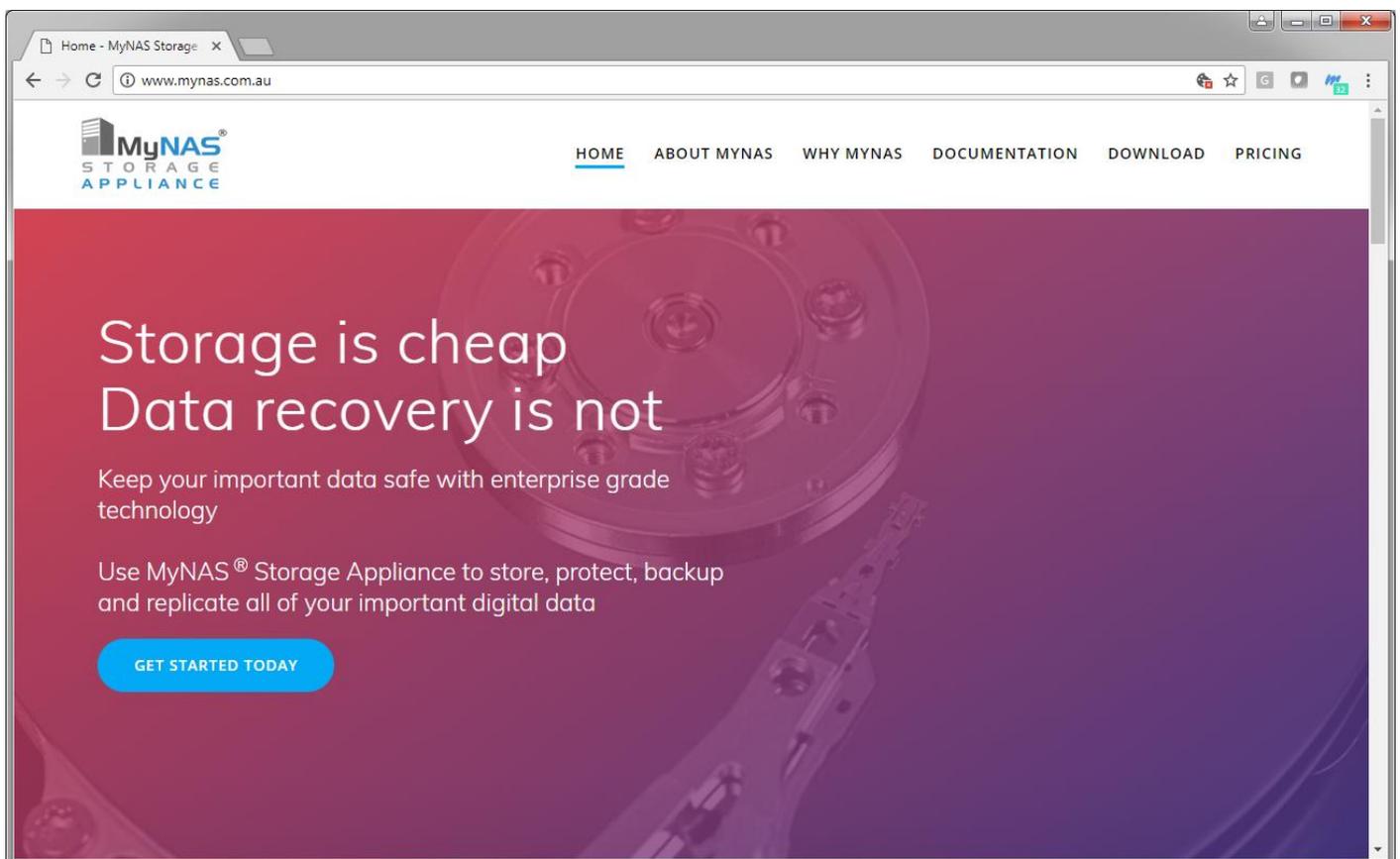
Watch the installation process through the following YouTube video:

<https://youtu.be/r9UY2xZbonU>

Obtaining MyNAS® Storage Appliance Installation Media

MyNAS can be obtained by downloading the ISO file from the MyNAS Storage Appliance website

www.mynas.com.au:



Once the file is downloaded, utilise an MD5SUM generation tool to validate the downloaded file to ensure that the download is not corrupt.

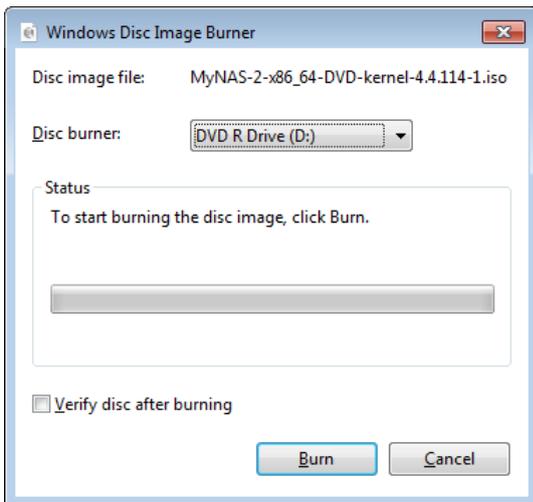
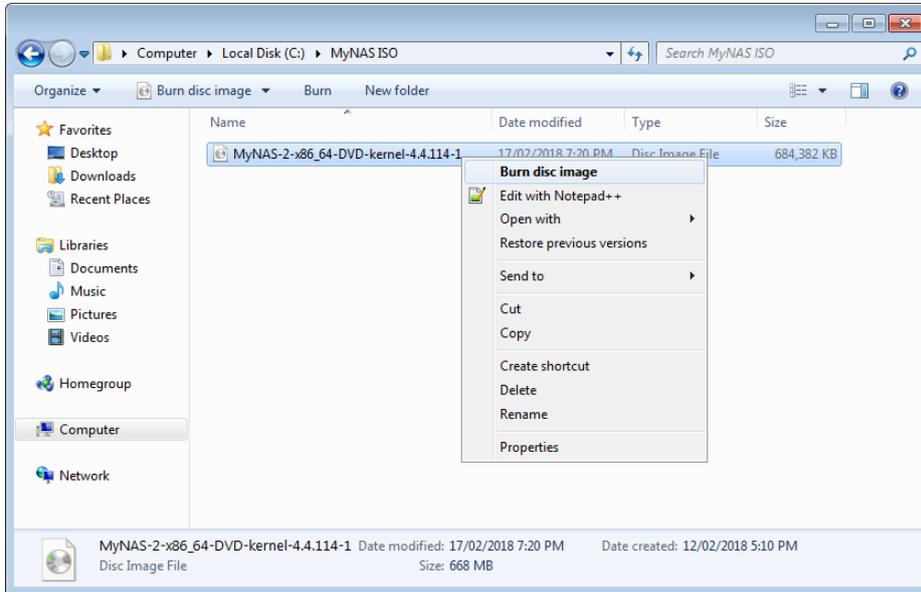
Creating a bootable DVD from the MyNAS® Storage Appliance ISO

Depending on your desktop OS, the following instructions will help you create a DVD from which to install MyNAS from.

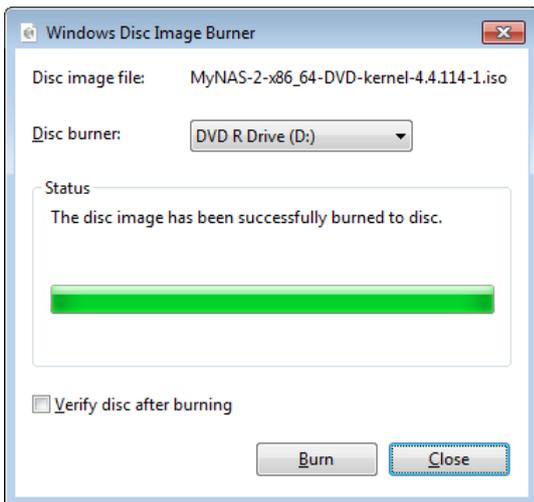
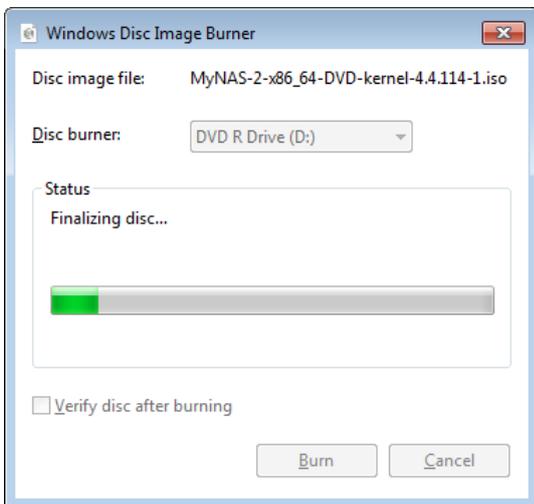
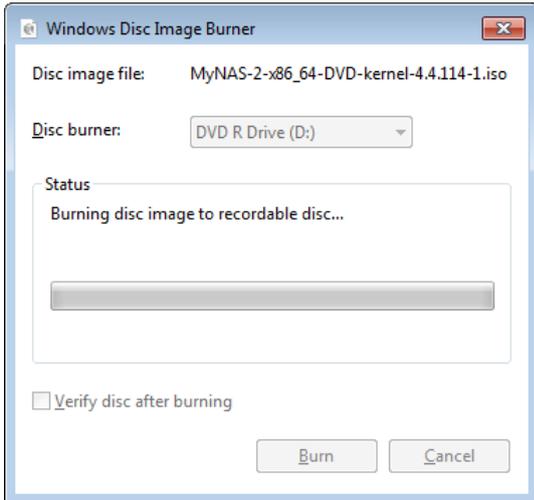
Windows 7 / Windows 8.x / Windows 10

Windows 7 / Windows 8x / Windows 10 has an inbuilt ISO CD/DVD recording capability. Use the following steps to create the bootable DVD:

1. Insert a blank DVD into your DVD Burner.
2. Start Windows Explorer
3. Locate the ISO file, right click on the file and then select to “Burn disk image” as illustrated below. This process will open the Windows Disk Image Burner application.



4. Click Burn, and the recording process will begin as per illustrated below:



5. Click Close once the DVD burn has completed. Your MyNAS Storage Appliance Installation DVD is now ready to use to install the software to your hardware.

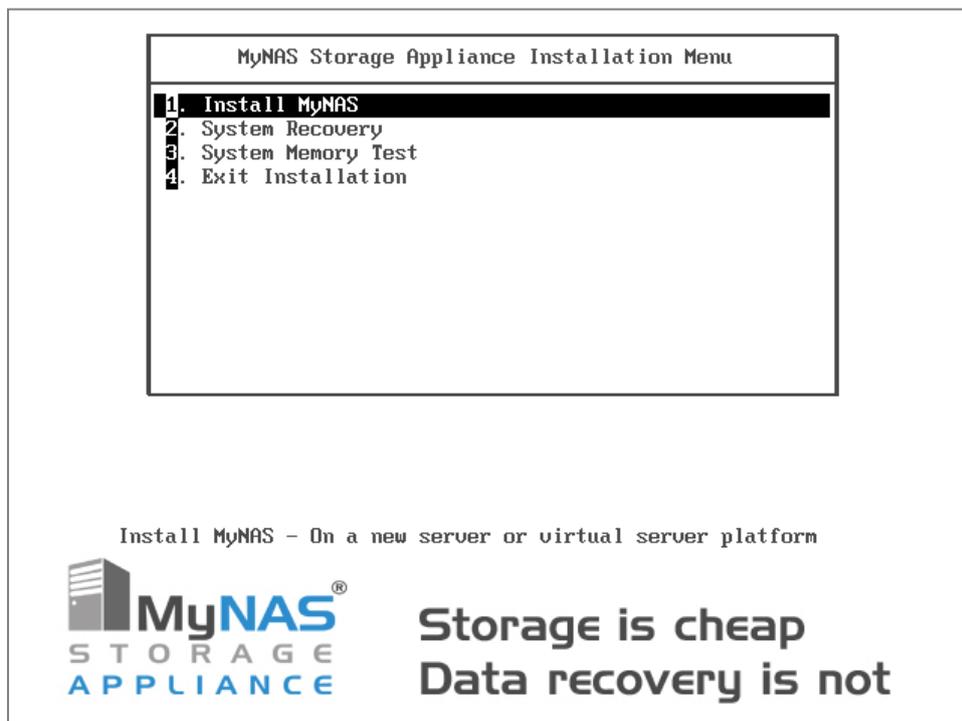
Other Operating Systems

Refer to your Operating System for the instructions on how to burn an ISO file to a blank DVD media.

Installing MyNAS® Storage Appliance on a Bare Metal Server

Note: This process assumes you have already created the installation DVD from which to perform the installation from

1. Power on the server and insert the installation DVD into the CD/DVD drive
 - a. Depending on the server and your setup you may need to also configure or change the boot sequence of the server to boot from the DVD
2. Once the Boot Selection Screen appears, four choices are available to you as illustrated below:



These choices allow the following:

- Install MyNAS
- System Recovery - If the system becomes inaccessible, this allows mounting the boot drive to perform recovery operations
- System Memory Test - Test the memory on the local system for any errors
- Exit Installation - Exit the install and boot the system without making any modification.

For the purpose of installing MyNAS, the first option should be selected.

3. The license acceptance page appears. In order to install this product, the license agreement must be accepted. To view the online version of the license agreement, visit:

<http://www.mynas.com.au/mynas-end-user-license-agreement-eula/>

Click Accept to agree to the agreement and to continue the installation.

4. Select the language that you wish to install MyNAS in, and click next.
5. Select the appropriate keyboard type for the system, and click next.
6. Select the appropriate time zone for your system, and click next.
7. Type in an appropriate root, admin and enable user passwords, and click next.
8. The installation target screen will now appear, providing the ability to detail what install should be performed.

MyNAS
STORAGE
APPLIANCE

Storage is cheap. Data recovery is not.

MyNAS Installation Targets

Select 1 drive to perform a single drive install. Select 2 drives of the same size to perform a RAID1 mirror install.

Drive	Size	Model
<input type="checkbox"/> sda	10240 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdb	10240 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdc	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdd	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sde	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdf	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdg	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdh	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdi	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdj	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdk	1024 MB	VMware, VMware Virtual S
<input type="checkbox"/> sdl	1024 MB	VMware, VMware Virtual S

Back Next

A single drive install for the MyNAS operating system is typically what most users will choose to perform, however some users may choose to install the MyNAS operating system as a RAID1 Mirror. This provides a level of protection for the operating system against drive failures.

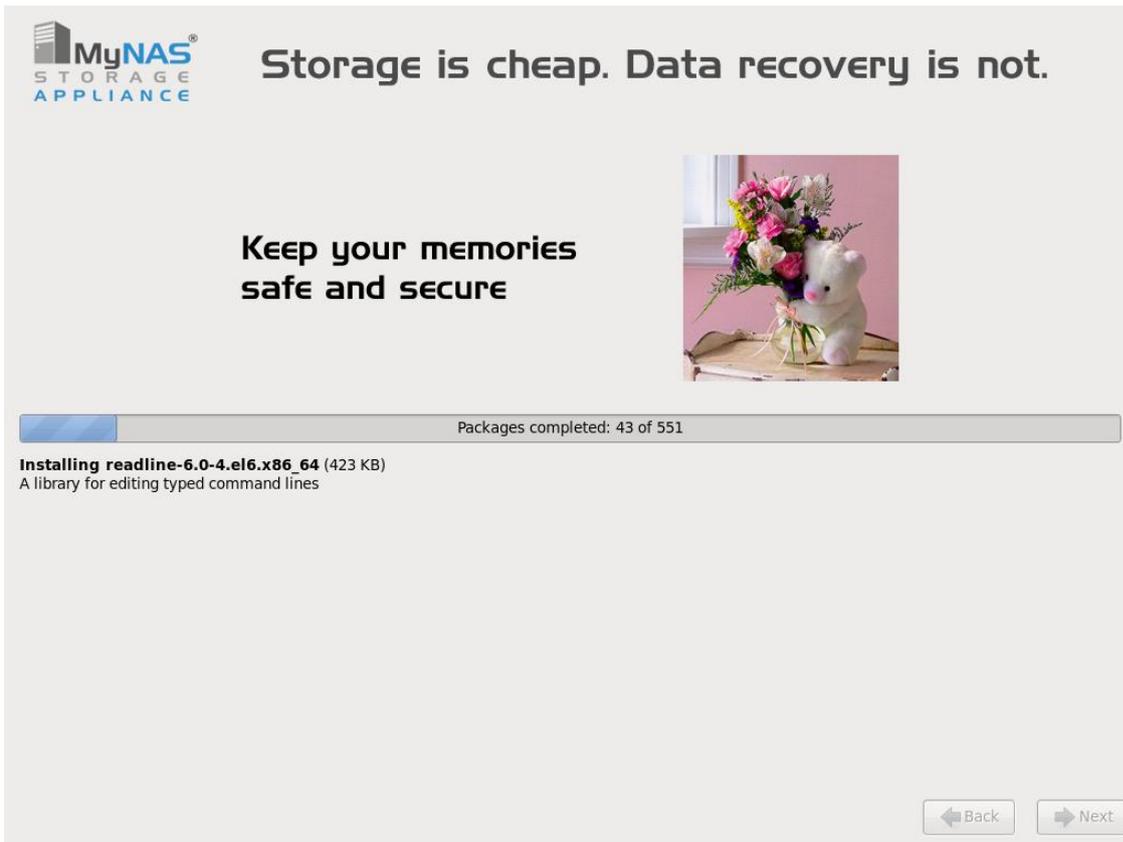
In order to perform a RAID1 install, two drives of the same size will need to be selected. Once the appropriate install target(s) is/are selected, click next to continue.

As a safeguard you will now be prompted to confirm that this is what you desire to do. Clicking No will allow you to change the installation selection, clicking Yes will perform the install on the selected drives, destroying any data which may be present on those selected drives.

The selected drive(s) will now be partitioned according to the recommendations for Red Hat Enterprise Linux (RHEL) 6:

http://www.linuxtopia.org/online_books/rhel6/rhel_6_installation/rhel_6_installation_s2-diskpartrecommend-x86.html

9. The install process will now proceed



10. Once the installation completes, click reboot to restart the system. Eject the DVD from the system to prevent loading from the CD again and sitting at the initial boot screen as displayed in step 2.

11. Once the system has rebooted, the console screen will display information similar to the following:

```
MyNAS Release 2.0 (Aberfeldy)

To manage the MyNAS software appliance through its Web interface, open a
browser window and enter the following URL:

    http://192.168.220.132

You will be prompted for your administrator account and password.
Please have your administrator account and password ready for authentication.

To manage the MyNAS appliance through the Command Line (CLI) Shell, please
login using the login prompt below.

mynas-doc-test login: _
```

12. You are now able to login to the system via either the CLI or the WebUI with the admin or enable accounts and passwords as specified during the installation

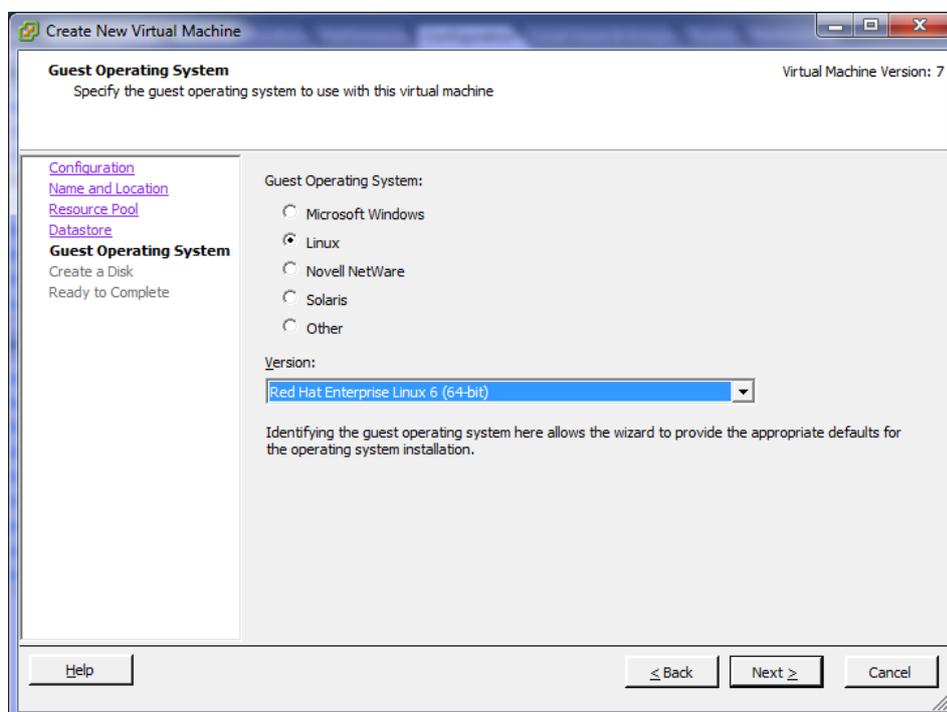
Installing MyNAS® Storage Appliance under VMware ESXi

The installation of MyNAS Storage Appliance under VMware ESXi is fully supported, with the following caveats:

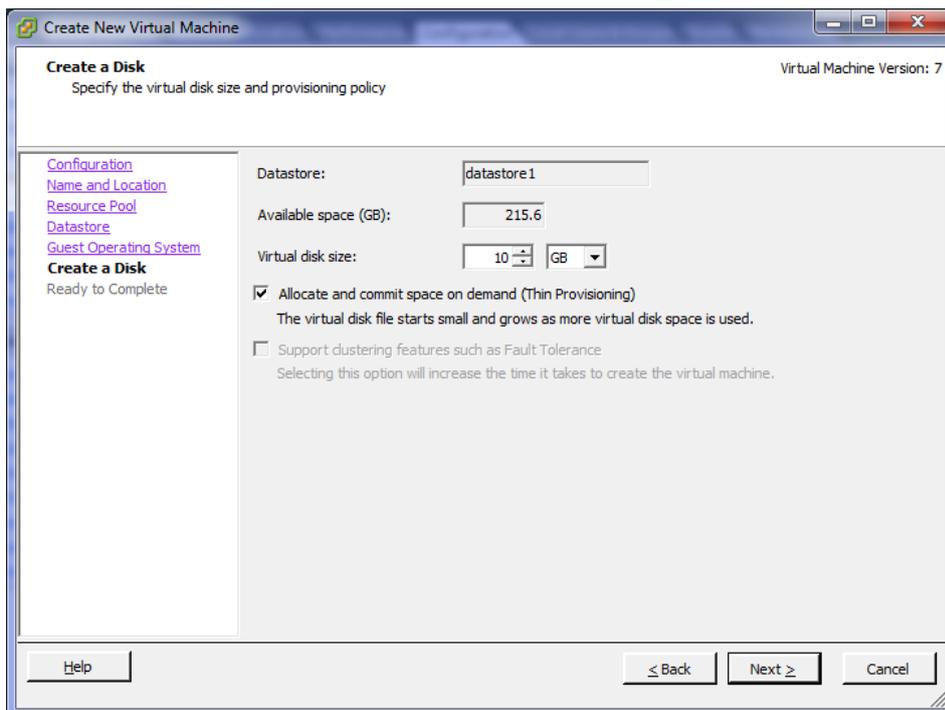
Note: It is not recommended to install MyNAS to an ESXi Server with only local data storage, then using MyNAS, share out an iSCSI target for that same ESXi Server to use. This creates an unnecessary loop dependency and introduces a performance impediment for that ESXi server.

Use the following steps to create a new virtual machine on ESXi to install MyNAS to

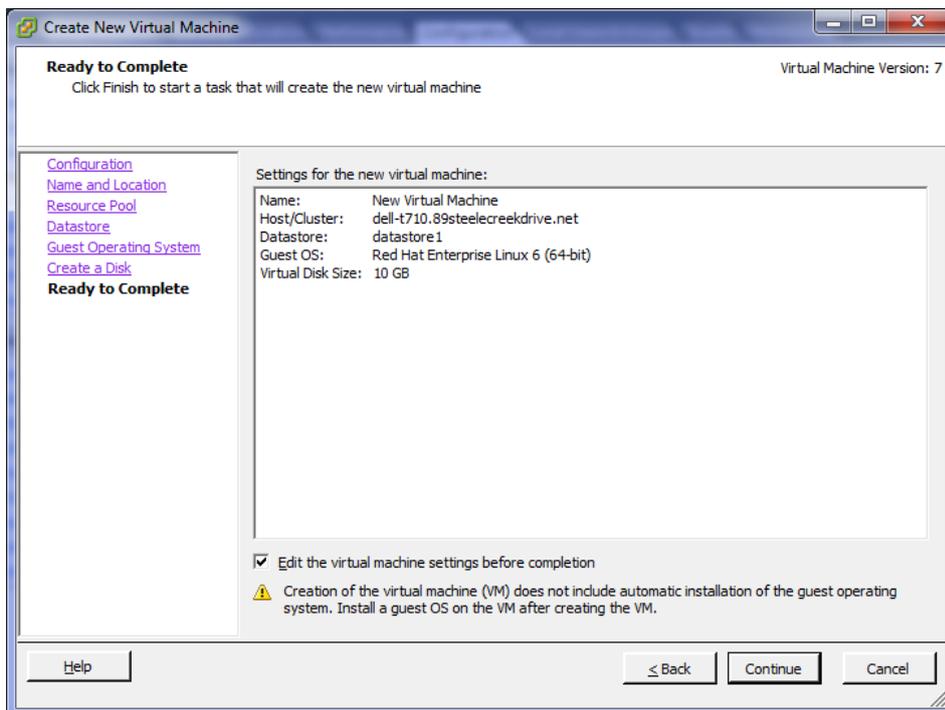
1. Open the VMware vSphere client and log into the VMware ESXi server with appropriate privileges which can create a new virtual machine and upload the MyNAS ISO to an applicable datastore
2. Select the Configuration tab, then storage in the Hardware window, right click on the datastore where the MyNAS ISO is to be uploaded and click browse. Upload the MyNAS ISO to this datastore.
3. From the VMware vSphere client, click on File → New → Virtual Machine
4. Work through the wizard configuring the options as applicable to your environment. For the Guest Operating System, select Linux and Red Hat Enterprise Linux 6 (64-bit) as illustrated below:



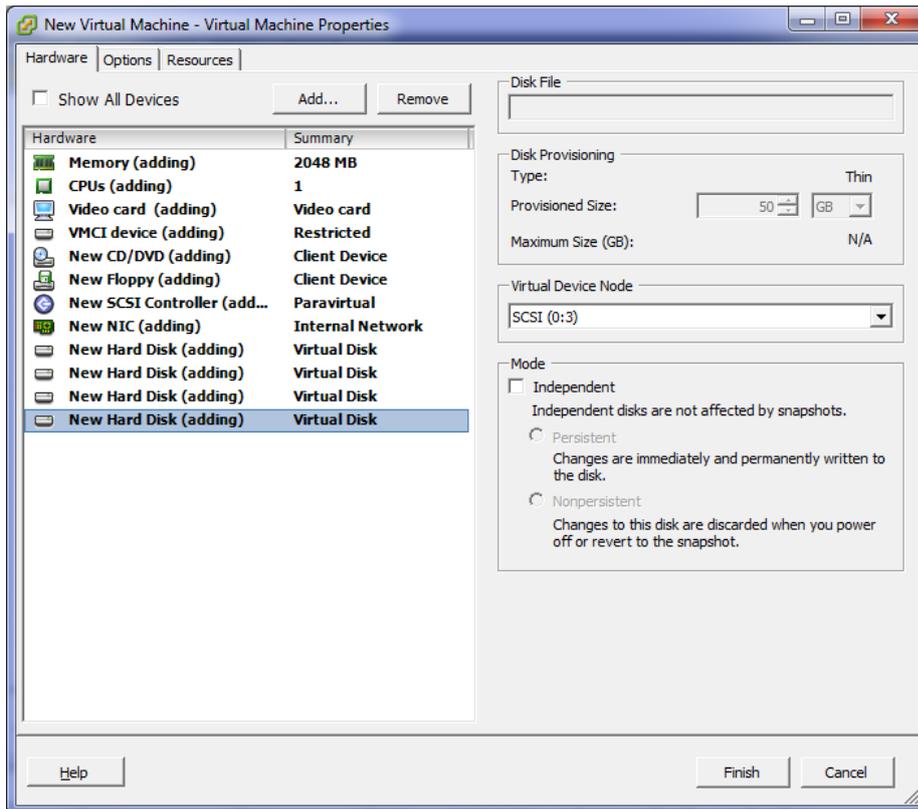
5. Create an initial disk allocation of 10GB as illustrated below:



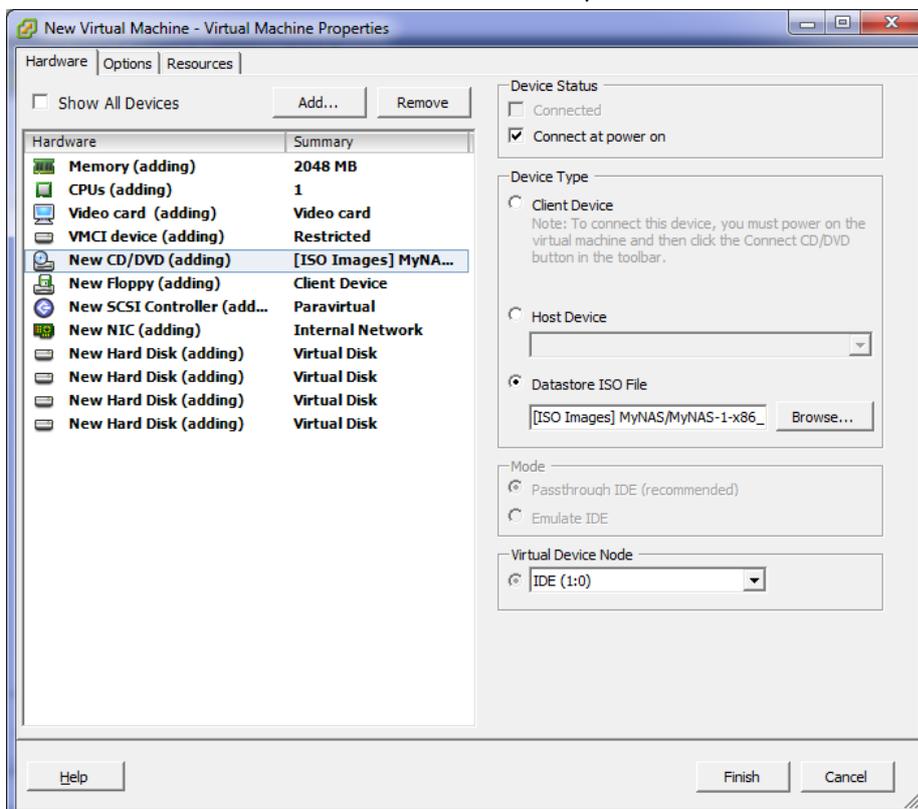
6. Click the "Edit the virtual machine settings before completion" check box, as illustrated below and click continue.



7. Depending on your install, as your ESXi Datastore's should already be serviced by highly available storage, using a single drive for the MyNAS installation is recommended. At this point add additional "New Hard Disks" to the MyNAS virtual machine configuration which will formulate the basis of the drives used for the ZFS pools when MyNAS is configured. If you have multiple datastore's configured in your ESXi configuration, store each "New Hard Disk" if possible on separate datastores. Once you have finished adding disks to your virtual machine configuration, you may end up with a configurations similar to below:



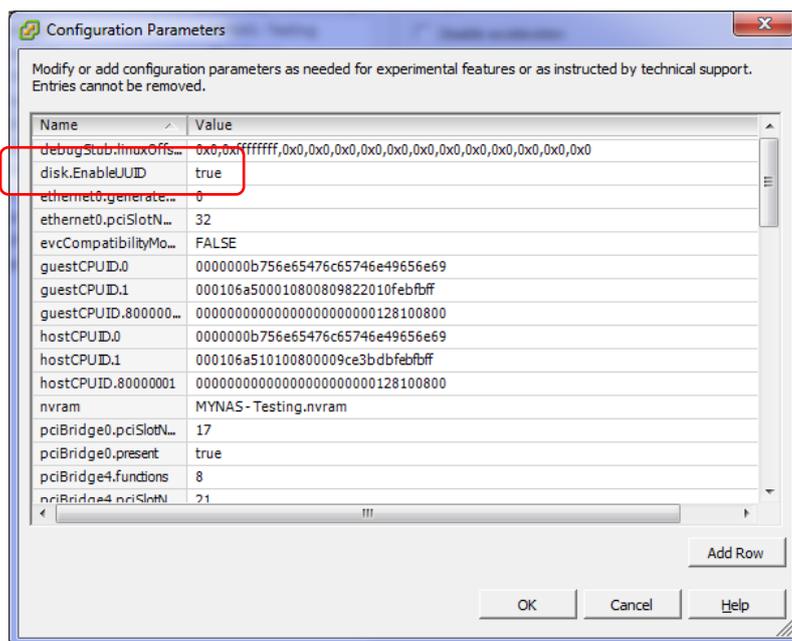
- Under the "New CD/DVD" component, select the MyNAS ISO from the applicable ESXi datastore to perform the install from and ensure that the "Connect at power on" checkbox is checked as illustrated below:



- Once all configured, click Finish.

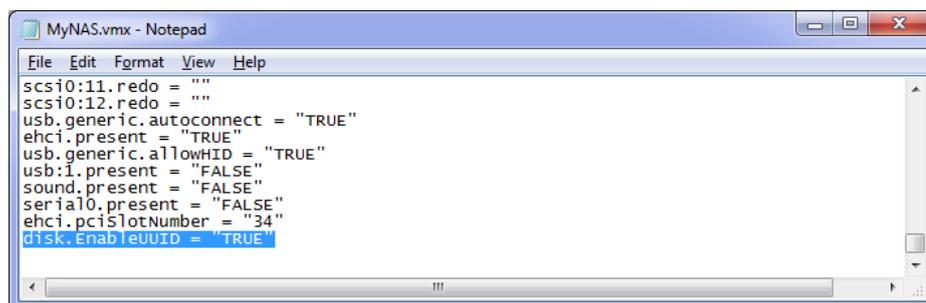
10. By default, VMware does not provide the information needed by MyNAS to generate the attached disk information. This can be done by editing the virtual machine configuration:

- a. Right-click the virtual machine, and click Edit Settings.
- b. Click the Options tab, and select the General entry in the settings column.
- c. Click Configuration Parameters. The Configuration Parameters window appears.
- d. Click Add Row.
- e. In the Name column, enter: `disk.EnableUUID`
- f. In the Value column, enter: `TRUE`



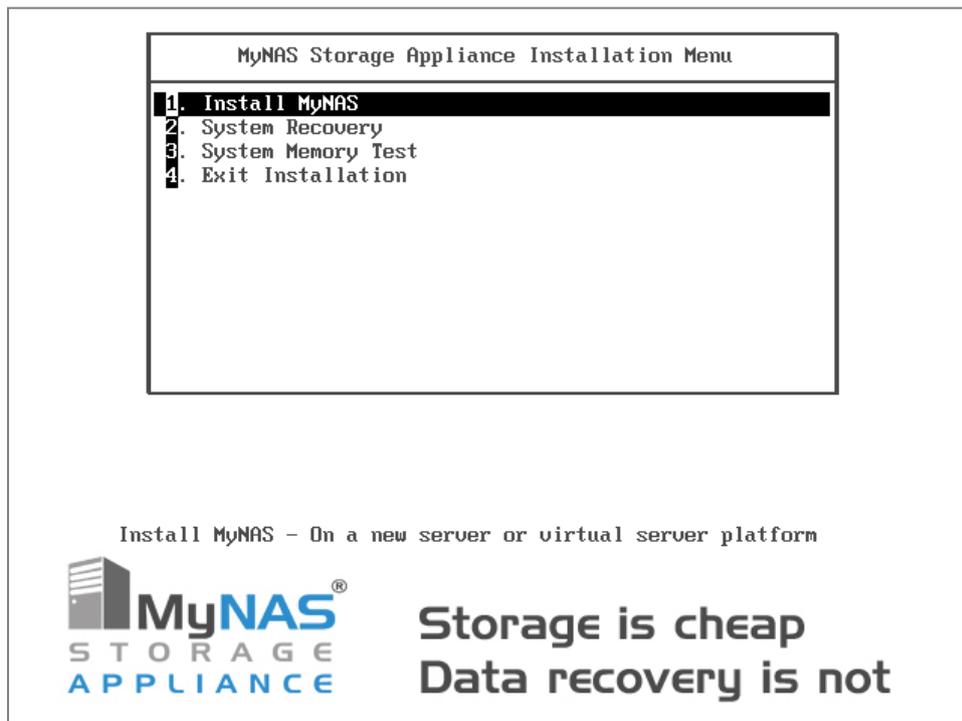
- g. Click OK and click OK again to save.

Note: If using VMware Workstation, the same configuration can also be made to the virtual machine vmx configuration file as illustrated below:



11. When ready, click on the icon to Launch the Virtual Machine Console for the newly created virtual machine, and power the virtual machine on.

13. Once the Boot Selection Screen appears, four choices are available to you as illustrated below:



These choices allow the following:

- Install MyNAS
- System Recovery - If the system becomes inaccessible, this allows mounting the boot drive to perform recovery operations
- System Memory Test - Test the memory on the local system for any errors
- Exit Installation - Exit the install and boot the system without making any modification.

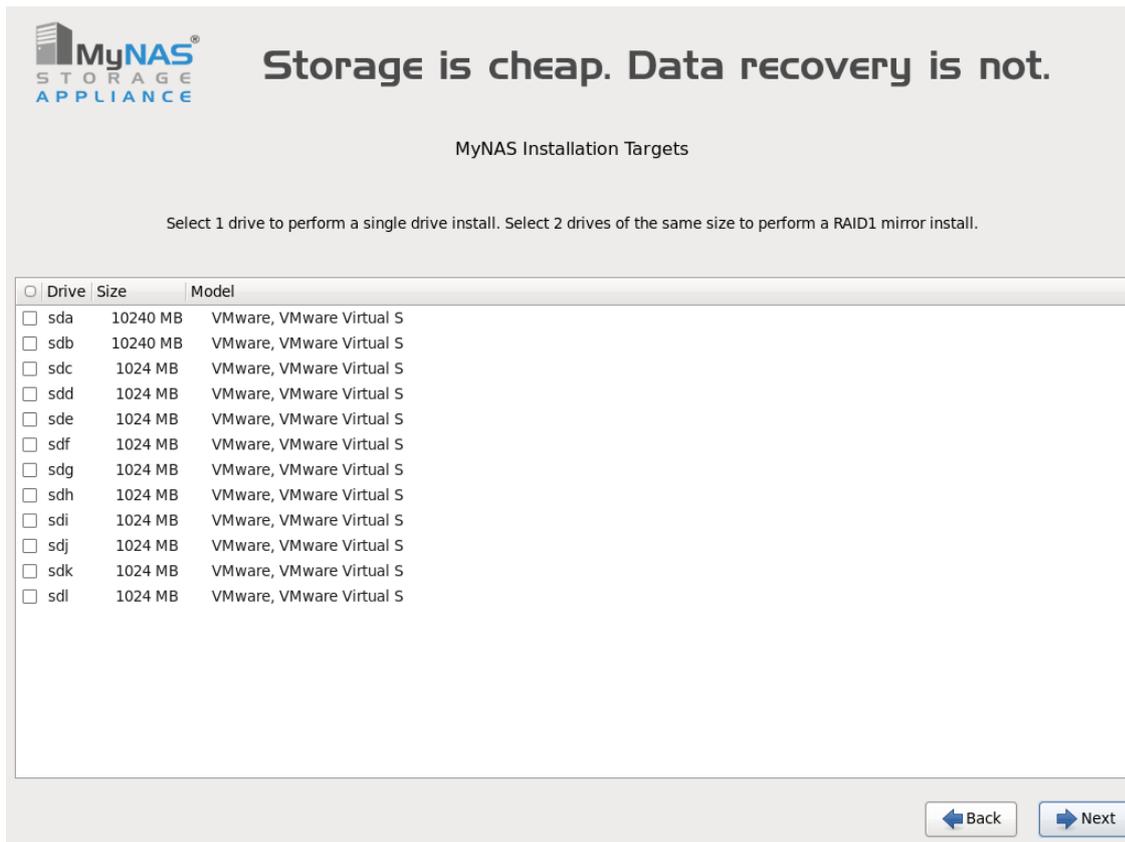
For the purpose of installing MyNAS, the first option should be selected.

14. The license acceptance page appears. In order to install this product, the license agreement must be accepted. To view the online version of the license agreement, visit:

<http://www.mynas.com.au/mynas-end-user-license-agreement-eula/>

Click Accept to agree to the agreement and to continue the installation.

15. Select the language that you wish to install MyNAS in, and click next.
16. Select the appropriate keyboard type for the system, and click next.
17. Select the appropriate time zone for your system, and click next.
18. Type in an appropriate root user password, and click next.
19. The installation target screen will now appear, providing the ability to detail what install should be performed.



As this install is on a virtual machine, a single drive install should be sufficient as the underlying ESXi datastore's should be able to provide the storage redundancy for the install.

Select the 10GB drive for the initial install and click Next.

20. As a safeguard you will now be prompted to confirm that this is what you desire to do. Clicking No will allow you to change the installation selection, clicking Yes will perform the install on the selected drives, destroying any data which may be present on those selected drives.

The selected drive(s) will now be partitioned according to the recommendations for Red Hat Enterprise Linux (RHEL) 6:

http://www.linuxtopia.org/online_books/rhel6/rhel_6_installation/rhel_6_installation_s2-diskpartrecommend-x86.html

21. The install process will now proceed



22. Once the installation completes, edit the settings of the virtual machine so that the check box for "connect at power on" for the CD/DVD drive is unchecked. This will help prevent the virtual machine loading from the ISO image again and sitting at the initial boot screen as displayed in step 13.
23. Click reboot to restart the system.
24. Once the system has rebooted, the console screen will display information similar to the following:

```
MyNAS Release 2.0 (Aberfeldy)

To manage the MyNAS software appliance through its Web interface, open a
browser window and enter the following URL:

    http://192.168.220.132

You will be prompted for your administrator account and password.
Please have your administrator account and password ready for authentication.

To manage the MyNAS appliance through the Command Line (CLI) Shell, please
login using the login prompt below.

mynas-doc-test login: _
```

You are now able to login to the system with the admin or enable accounts and passwords as specified during the installation.

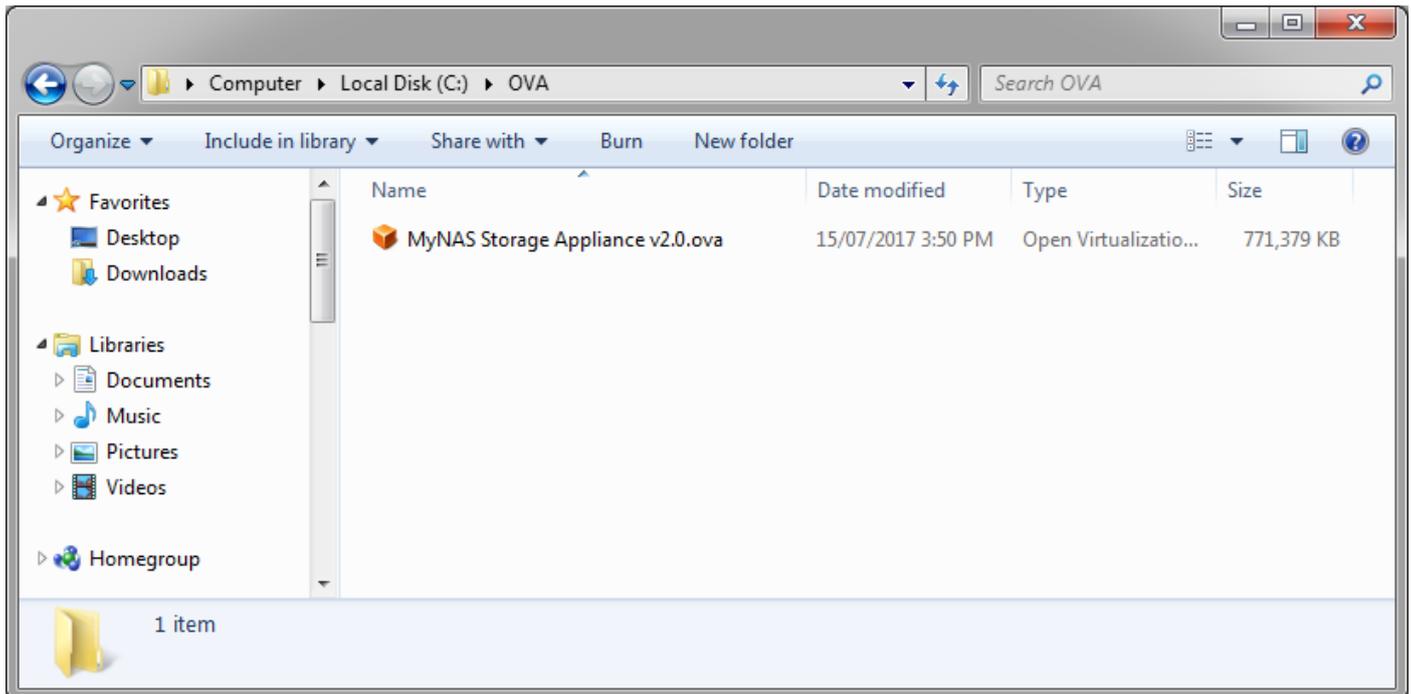
Installing MyNAS® Storage Appliance under Oracle VM VirtualBox

Oracle VM VirtualBox provides a quick and easy way to test MyNAS Storage Appliance before installing it on your actual hardware.

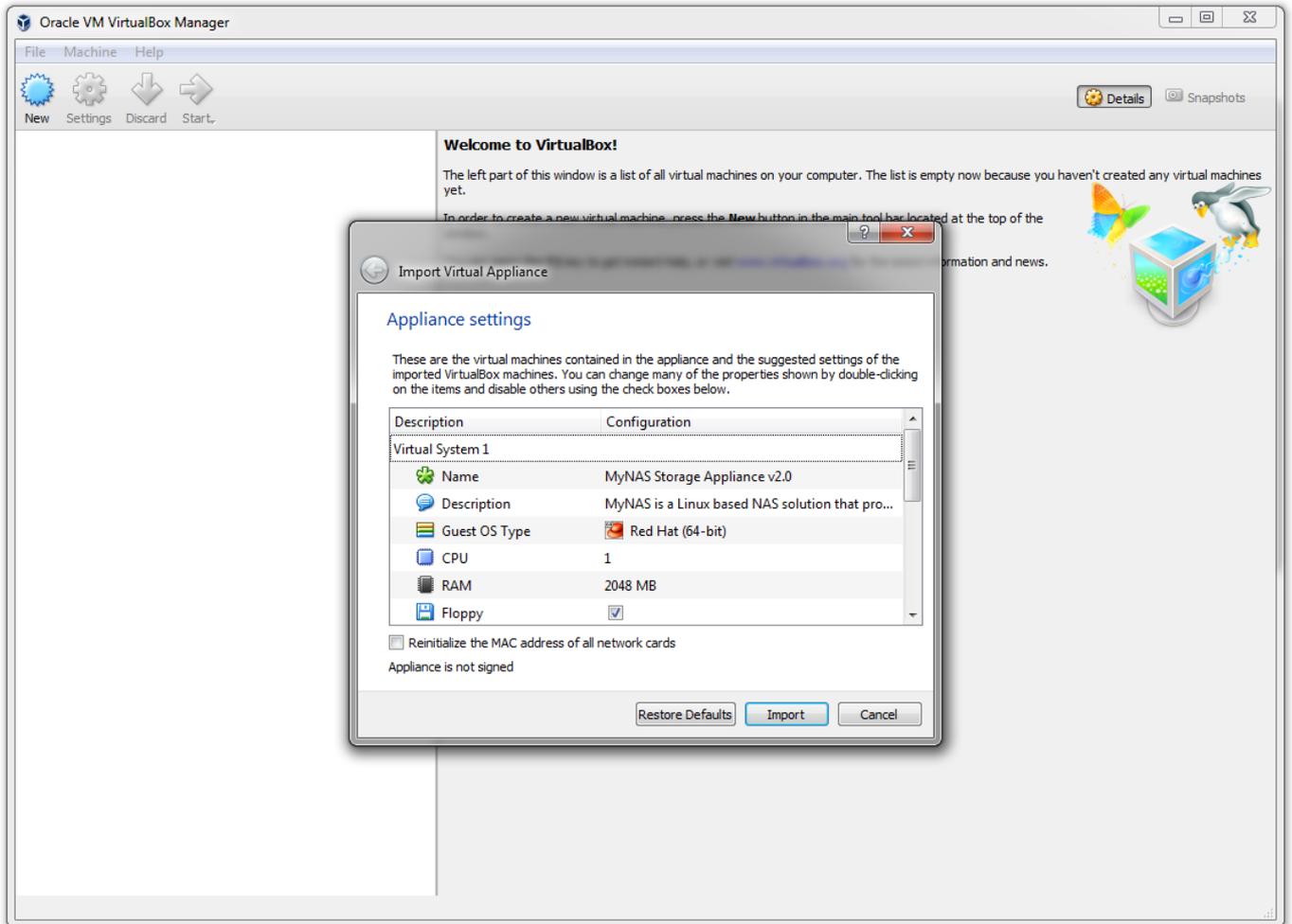
To do this, first download and install Oracle VM VirtualBox from <https://www.virtualbox.org/>

Once installed, download the MyNAS Virtual Appliance from <http://www.mynas.com.au/download-now/>

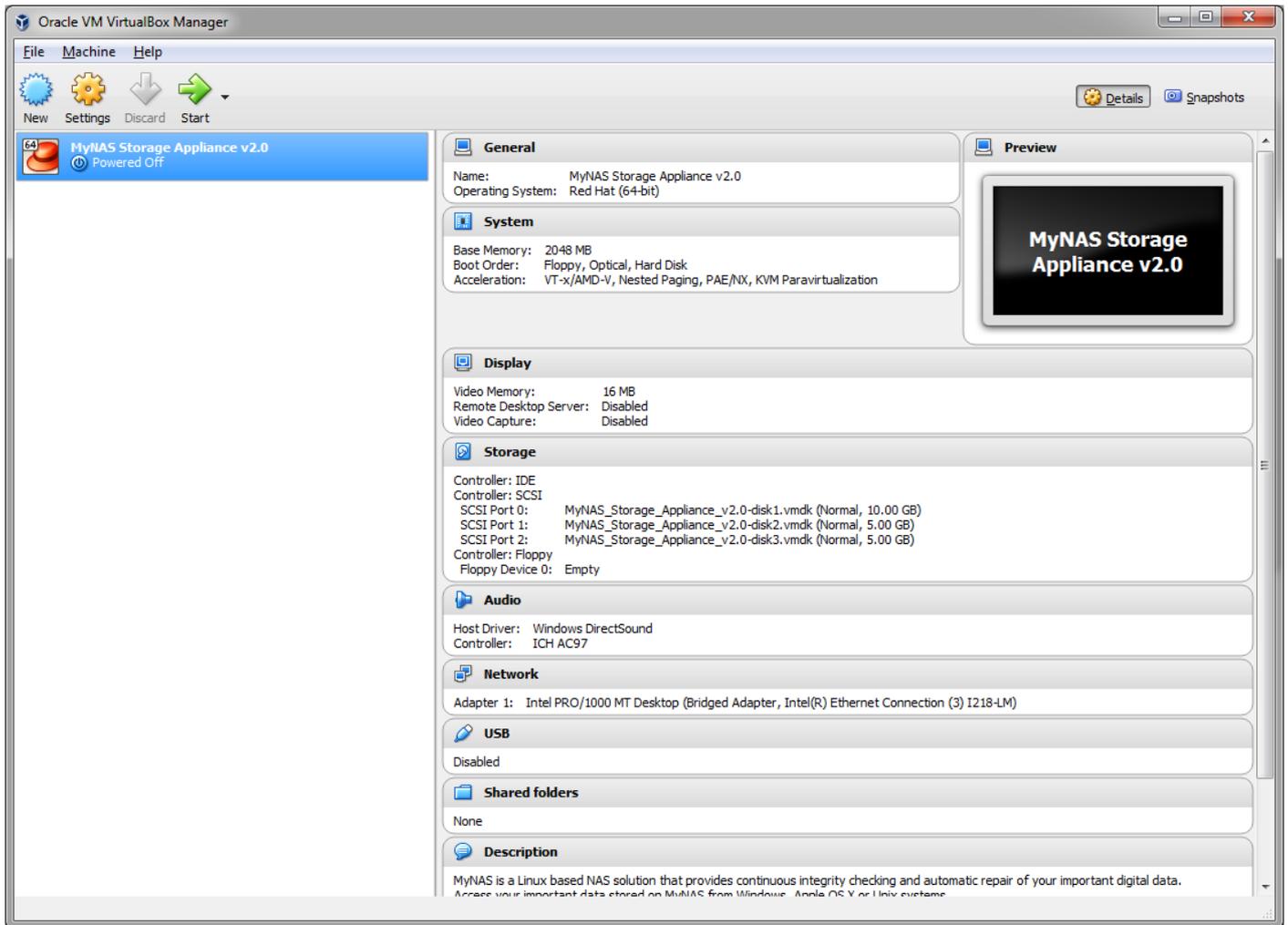
The OVA is a pre-installed & packaged version of MyNAS Storage Appliance that is suitable for use with Oracle VM VirtualBox. Once the OVA file is extracted, double click on the file:



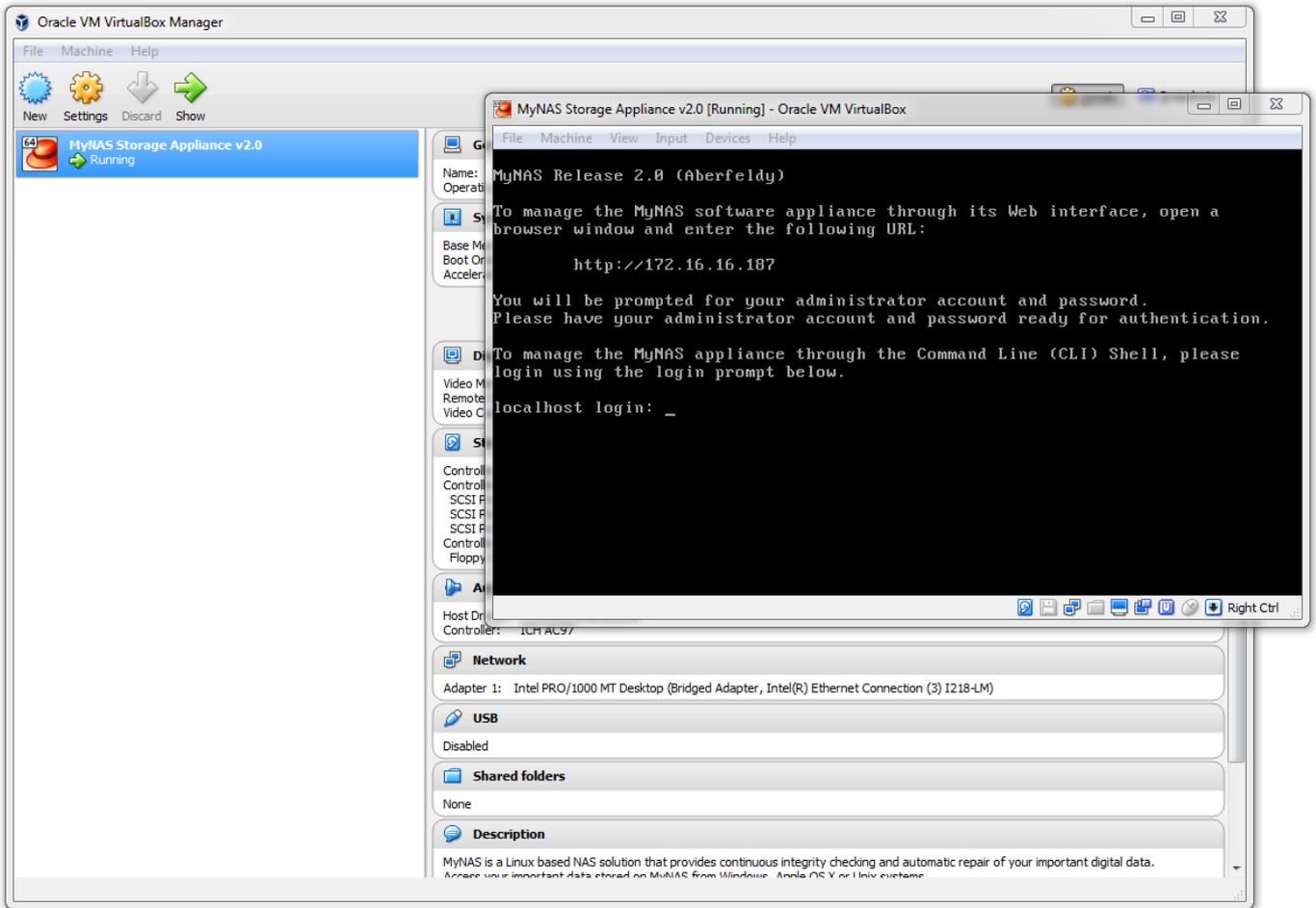
Oracle VM VirtualBox will open to import the MyNAS Storage Appliance:



Click the Import button to complete the import process. Once imported, click on the new virtual machine and then press the green arrow to start the virtual machine:



After a new moments, your MyNAS Storage Appliance will be running, and you will be able to access the WebUI console from a browser using the URL presented:



Initial Configuration of MyNAS® Release 2.0 (Aberfeldy) via the MyNAS CLI

In some instances, the use of DHCP within your network environment may not be desirable. For most environments however DHCP will be available and be entirely acceptable for use.

Configuring MyNAS® Network Settings

Follow the directions below to configure MyNAS to utilise a static IP address if your network environment requires MyNAS to be configured this way.

1. Login to the console as the "admin" user, then enter the "enable" mode to configure:

```
> enable
Password: <enter enable password>

Entering MyNAS CLI privileged execution mode...

enable#
```

2. Determine which network interface requires the re-configuration via the `show system network interfaces` command:

```
enable# show system network interfaces
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen
1000
    link/ether 00:50:56:ba:00:0e brd ff:ff:ff:ff:ff:ff
enable#
```

Typically, the network interface used to connect to your network will be the **eth0** interface. Depending on your network configuration you may have additional **ethX** devices which are also available for configuration.

3. Configure the static IP address using the following command syntax:

```
configure network interface static <interface> <ip_address> <subnet_mask> <gateway>
```

as follows:

```
enable# configure network interface static eth0 192.168.153.128 255.255.255.0
192.168.153.2
Reconfiguring the network, please wait ..
Configure DNS for this system using the command: configure network dns
enable#
```

4. Verify the changes with the following command:

```
enable# show system ip addresses
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen
1000
    link/ether 00:0c:29:92:7a:ae brd ff:ff:ff:ff:ff:ff
    inet 192.168.153.128/24 brd 192.168.153.255 scope global eth0
    inet6 fe80::20c:29ff:fe92:7aae/64 scope link
        valid_lft forever preferred_lft forever
enable#
```

The IP address as entered in step 3 should now be in use on the system.

5. Configure the MyNAS appliance DNS to ensure MyNAS is able to perform required tasks. The configure DNS command has a number of options:

- `configure network dns clear`
- `configure network dns google`
- `configure network dns nameserver <ip-address>`

The `clear` option will clear any DNS name server settings from the system configuration

The `google` option will set the system DNS to use Google's DNS Servers 8.8.8.8 and 8.8.4.4

The `nameserver` option allows you to enter in a specific DNS server of your choice. This command can be used a number of times to enter in multiple DNS servers for name resolution.

```
enable# configure network dns clear
enable# configure network dns google
enable# show system network dns
nameserver 8.8.8.8
nameserver 8.8.4.4
enable#
```

Note: When resetting the network interface to DHCP, the name servers manually configured will be overwritten by the DHCP configuration.

With the network configuration now set, all further MyNAS configuration is performed via the WebUI.

Initial Configuration of MyNAS® Release 2.0 (Aberfeldy) via the MyNAS WebUI

MyNAS provides the capability to login the WebUI via 2 user accounts, these are:

- admin
- enable

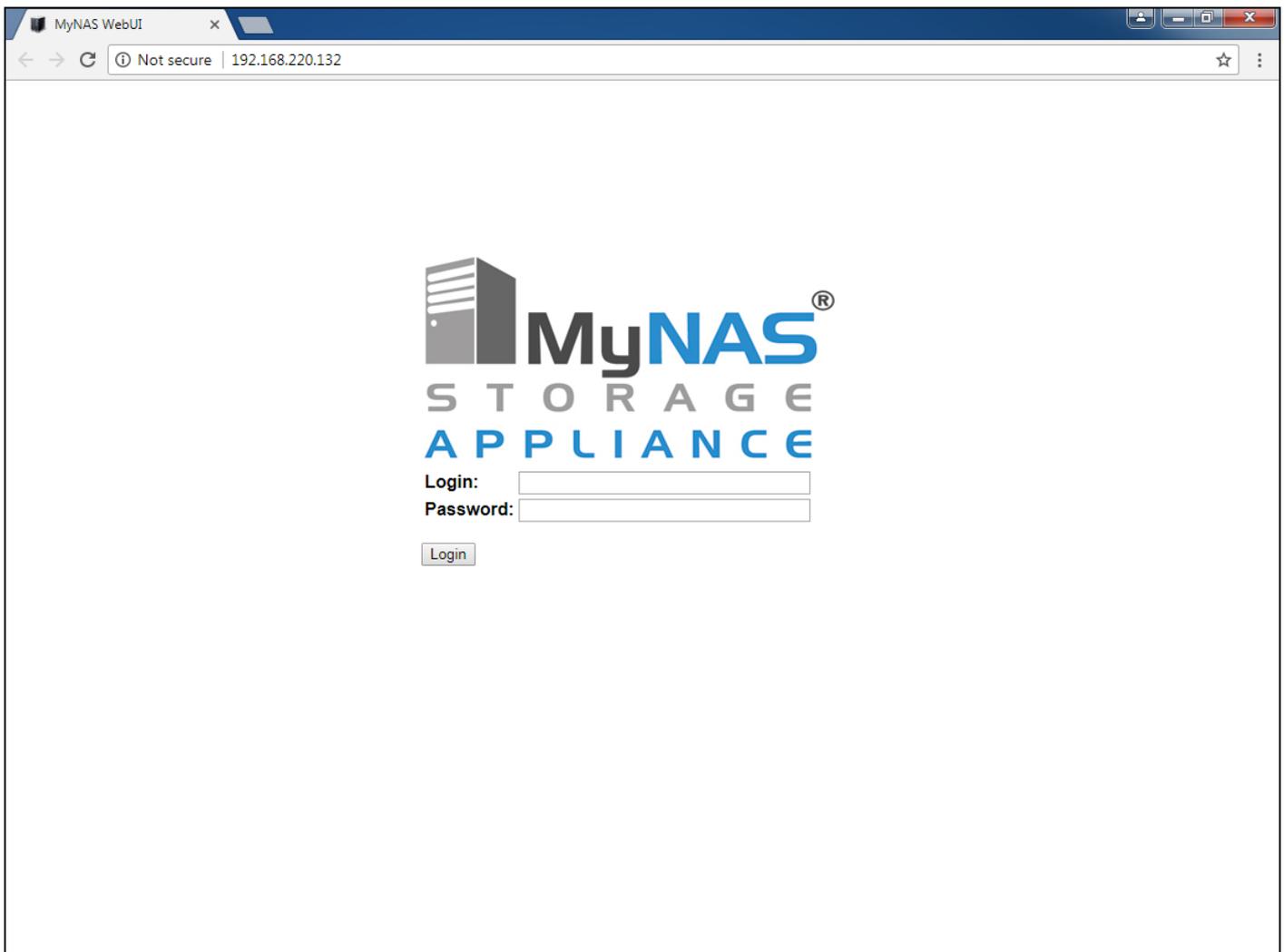
These 2 accounts use the passwords set during the installation process.

From the WebUI, the admin account allows basic access to various enabled services. This account is not able to configure MyNAS.

The enable account allows you to configure MyNAS, such as creating ZFS storage pools, creating network shares or enabling specific functionality.

Logging into the MyNAS WebUI for the first time as 'admin'

Point a browser at the web address as displayed at the console. The following will be displayed:



Login as the 'admin' user with the appropriate credentials and the following will be displayed as the user interface:

The screenshot shows a web browser window titled 'MyNAS WebUI' with the address bar displaying '192.168.220.132/webui/'. The navigation menu includes 'Home', 'Services', 'Contact Us', 'About', and 'Logout'. The main content area is titled 'MyNAS Storage Appliance Status Dashboard' and is divided into three sections: 'System Information', 'Hardware Information', and 'Storage Device Health'.

System Information

Hostname	localhost.localdomain
Version	MyNAS Release 2.0 (Aberfeldy)
Registration Status	UNREGISTERED
Kernel Version	4.4.114-1.el6.x86_64
SPL Version	spl-0.7.6-1.el6.x86_64
ZFS Version	zfs-0.7.6-1.el6.x86_64
IP Address	192.168.220.132
DNS Servers	192.168.220.2
Current Date and Time	Sat Feb 17 19:14:33 EST 2018
Uptime	0 days 0 hour(s) 53 minutes
Load Average	0.16 0.03 0.01

Hardware Information

Total Processors	1
Model	Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz
CPU Speed	2.59 GHz
Cache Size	4096 KB
System Bogomips	5188.09
System Memory	2003.15 MB
Free Memory	1646.20 MB
System UUID	564DDC64-74A4-4FAC-C4E2-A47E11FC56F6

Storage Device Health

Device Name	Status	Physical Disk Issues	Disk Age
/dev/sda	SMART Health Status: OK	N/A	N/A
/dev/sdb	SMART Health Status: OK	N/A	N/A
/dev/sdc	SMART Health Status: OK	N/A	N/A
/dev/sdd	SMART Health Status: OK	N/A	N/A
/dev/sde	SMART Health Status: OK	N/A	N/A
/dev/sdf	SMART Health Status: OK	N/A	N/A
/dev/sdg	SMART Health Status: OK	N/A	N/A
/dev/sdh	SMART Health Status: OK	N/A	N/A
/dev/sdi	SMART Health Status: OK	N/A	N/A
/dev/sdj	SMART Health Status: OK	N/A	N/A
/dev/sdk	SMART Health Status: OK	N/A	N/A
/dev/sdl	SMART Health Status: OK	N/A	N/A

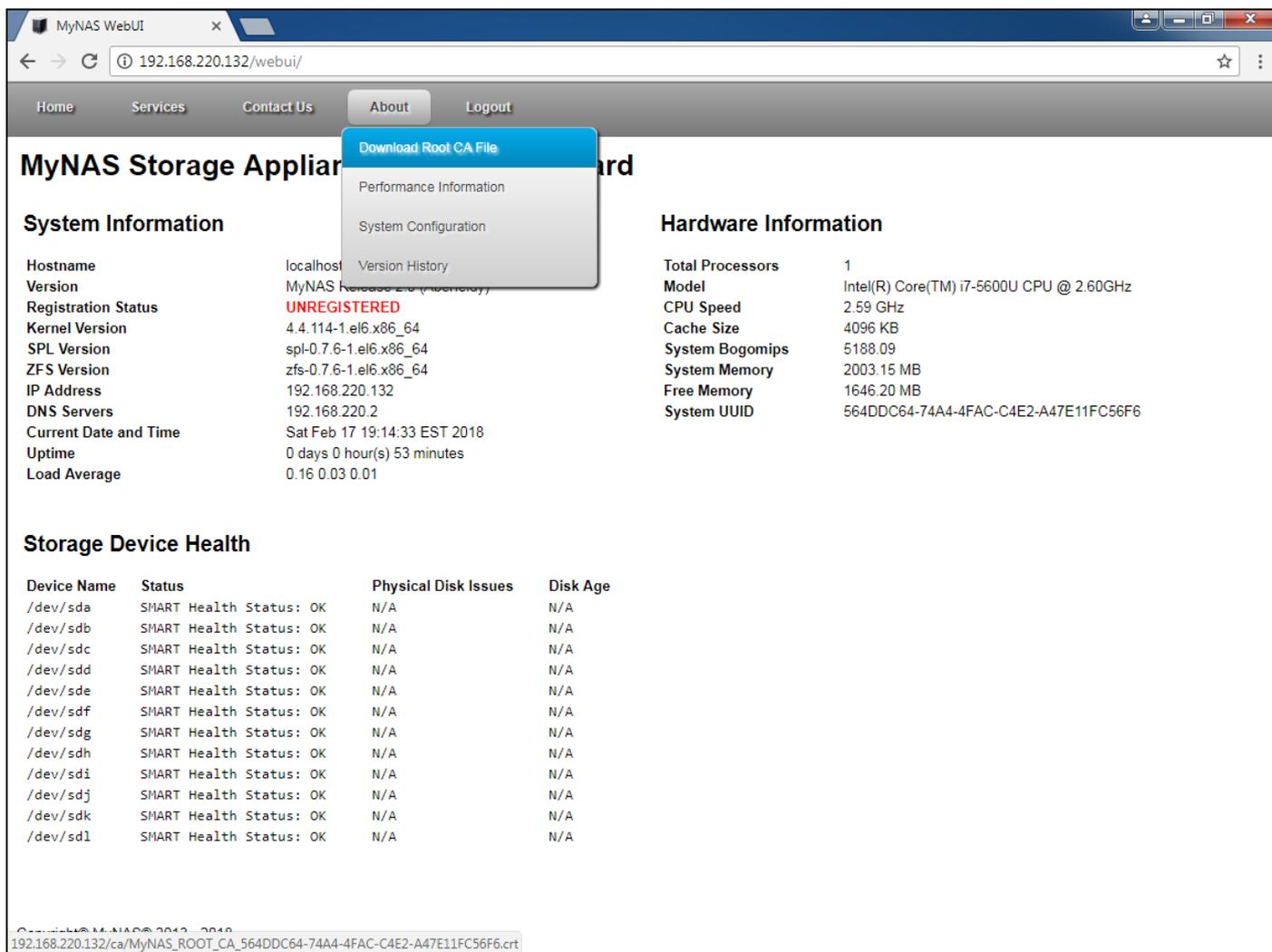
Copyright© MyNAS® 2013 - 2018

Download and Install the MyNAS Storage Appliance Root CA

Whilst logged in as the 'admin' user, download and install the MyNAS Storage Appliance Root CA. When configuring MyNAS Storage Appliance for the first time through the 'enable' account, the first time configuration wizard enables SSL access for the MyNAS Storage Appliance console. By downloading and installing the Root CA file now, your browser will not display an error once the SSL configuration is enabled.

Download the MyNAS Storage Appliance Root CA

From the menu bar select 'About' then 'Download Root CA File' to download the Root CA file to your PC.



The screenshot shows the MyNAS WebUI interface. The browser address bar displays '192.168.220.132/webui/'. The navigation menu includes 'Home', 'Services', 'Contact Us', 'About', and 'Logout'. The 'About' menu is open, showing options: 'Download Root CA File', 'Performance Information', and 'System Configuration'. The main content area is divided into three sections: 'System Information', 'Hardware Information', and 'Storage Device Health'. The 'System Information' section shows details like Hostname (localhost), Version (MyNAS Release 2.0 (beta2)), Registration Status (UNREGISTERED), Kernel Version (4.4.114-1.el6.x86_64), SPL Version (spl-0.7.6-1.el6.x86_64), ZFS Version (zfs-0.7.6-1.el6.x86_64), IP Address (192.168.220.132), DNS Servers (192.168.220.2), Current Date and Time (Sat Feb 17 19:14:33 EST 2018), Uptime (0 days 0 hour(s) 53 minutes), and Load Average (0.16 0.03 0.01). The 'Hardware Information' section shows Total Processors (1), Model (Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz), CPU Speed (2.59 GHz), Cache Size (4096 KB), System Bogomips (5188.09), System Memory (2003.15 MB), Free Memory (1646.20 MB), and System UUID (564DDC64-74A4-4FAC-C4E2-A47E11FC56F6). The 'Storage Device Health' section is a table with columns: Device Name, Status, Physical Disk Issues, and Disk Age. All devices from /dev/sda to /dev/sdl show SMART Health Status: OK, Physical Disk Issues: N/A, and Disk Age: N/A. At the bottom, a file path is visible: 192.168.220.132/ca/MyNAS_ROOT_CA_564DDC64-74A4-4FAC-C4E2-A47E11FC56F6.crt.

Device Name	Status	Physical Disk Issues	Disk Age
/dev/sda	SMART Health Status: OK	N/A	N/A
/dev/sdb	SMART Health Status: OK	N/A	N/A
/dev/sdc	SMART Health Status: OK	N/A	N/A
/dev/sdd	SMART Health Status: OK	N/A	N/A
/dev/sde	SMART Health Status: OK	N/A	N/A
/dev/sdf	SMART Health Status: OK	N/A	N/A
/dev/sdg	SMART Health Status: OK	N/A	N/A
/dev/sdh	SMART Health Status: OK	N/A	N/A
/dev/sdi	SMART Health Status: OK	N/A	N/A
/dev/sdj	SMART Health Status: OK	N/A	N/A
/dev/sdk	SMART Health Status: OK	N/A	N/A
/dev/sdl	SMART Health Status: OK	N/A	N/A

MyNAS WebUI
192.168.220.132/webui/

Home
Services
Contact Us
About
Logout

MyNAS Storage Appliance Status Dashboard

System Information

Hostname	localhost.localdomain
Version	MyNAS Release 2.0 (Aberfeldy)
Registration Status	UNREGISTERED
Kernel Version	4.4.114-1.el6.x86_64
SPL Version	spl-0.7.6-1.el6.x86_64
ZFS Version	zfs-0.7.6-1.el6.x86_64
IP Address	192.168.220.132
DNS Servers	192.168.220.2
Current Date and Time	Sat Feb 17 19:14:33 EST 2018
Uptime	0 days 0 hour(s) 53 minutes
Load Average	0.16 0.03 0.01

Hardware Information

Total Processors	1
Model	Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz
CPU Speed	2.59 GHz
Cache Size	4096 KB
System Bogomips	5188.09
System Memory	2003.15 MB
Free Memory	1646.20 MB
System UUID	564DDC64-74A4-4FAC-C4E2-A47E11FC56F6

Storage Device Health

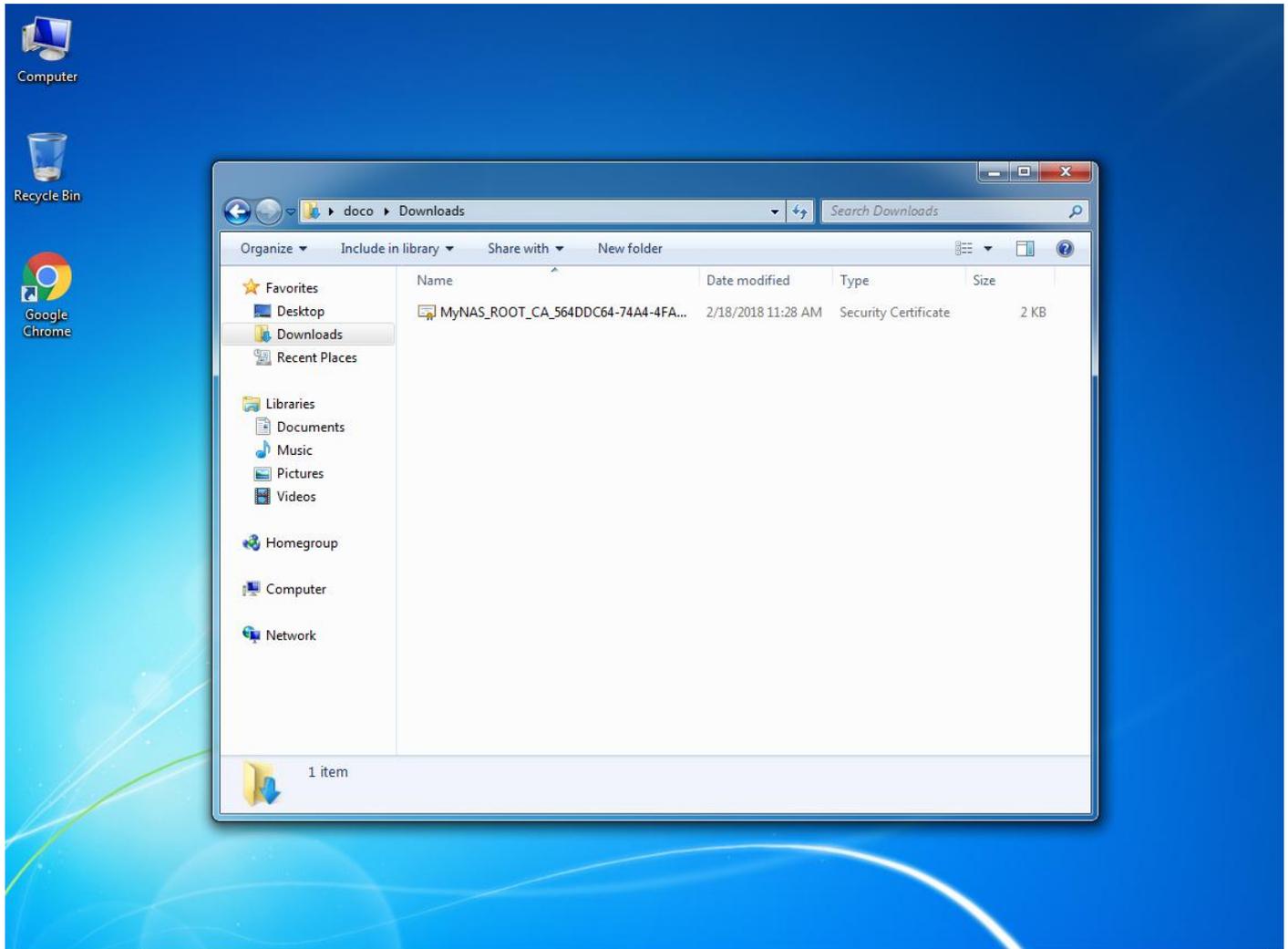
Device Name	Status	Physical Disk Issues	Disk Age
/dev/sda	SMART Health Status: OK	N/A	N/A
/dev/sdb	SMART Health Status: OK	N/A	N/A
/dev/sdc	SMART Health Status: OK	N/A	N/A
/dev/sdd	SMART Health Status: OK	N/A	N/A
/dev/sde	SMART Health Status: OK	N/A	N/A
/dev/sdf	SMART Health Status: OK	N/A	N/A
/dev/sdg	SMART Health Status: OK	N/A	N/A
/dev/sdh	SMART Health Status: OK	N/A	N/A
/dev/sdi	SMART Health Status: OK	N/A	N/A
/dev/sdj	SMART Health Status: OK	N/A	N/A
/dev/sdk	SMART Health Status: OK	N/A	N/A
/dev/sdl	SMART Health Status: OK	N/A	N/A

Copyright© MyNAS® 2013 - 2018

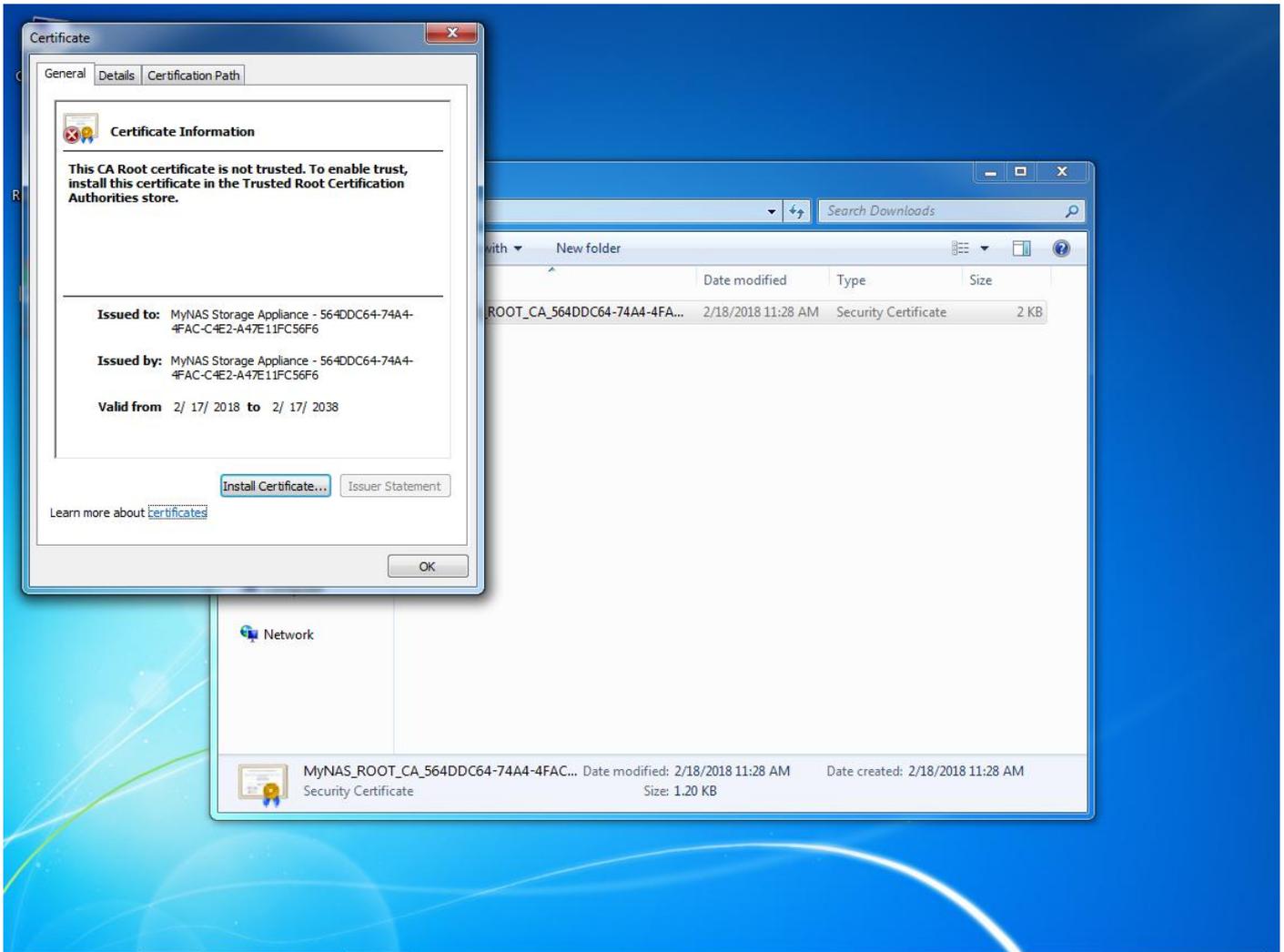
MyNAS_ROOT_CA_....crt ^
Show all ×

Importing the MyNAS Storage Appliance Root CA as a Trusted Certificate

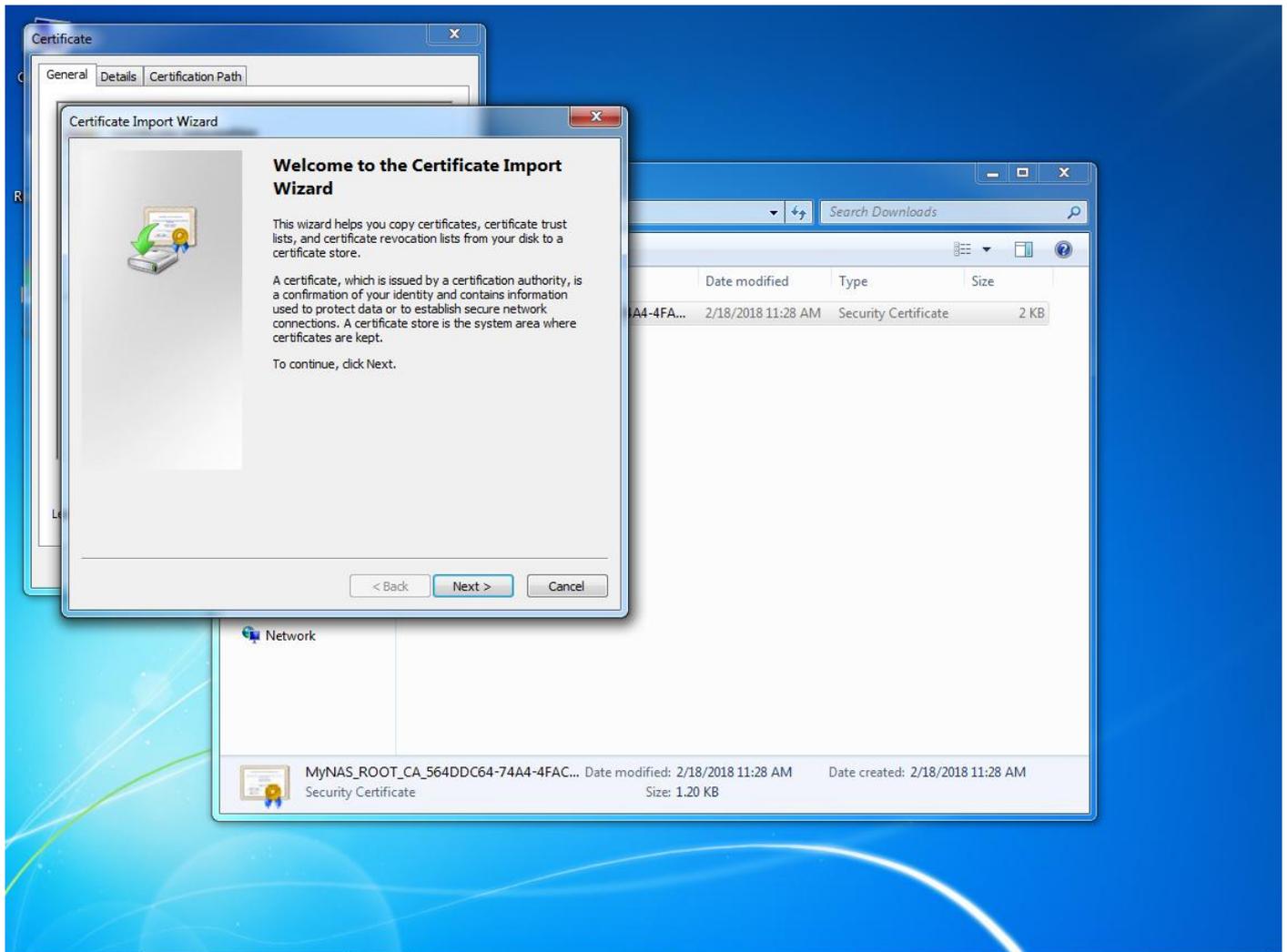
Close all open web browsers, then open the folder location where you saved your SSL certificate to



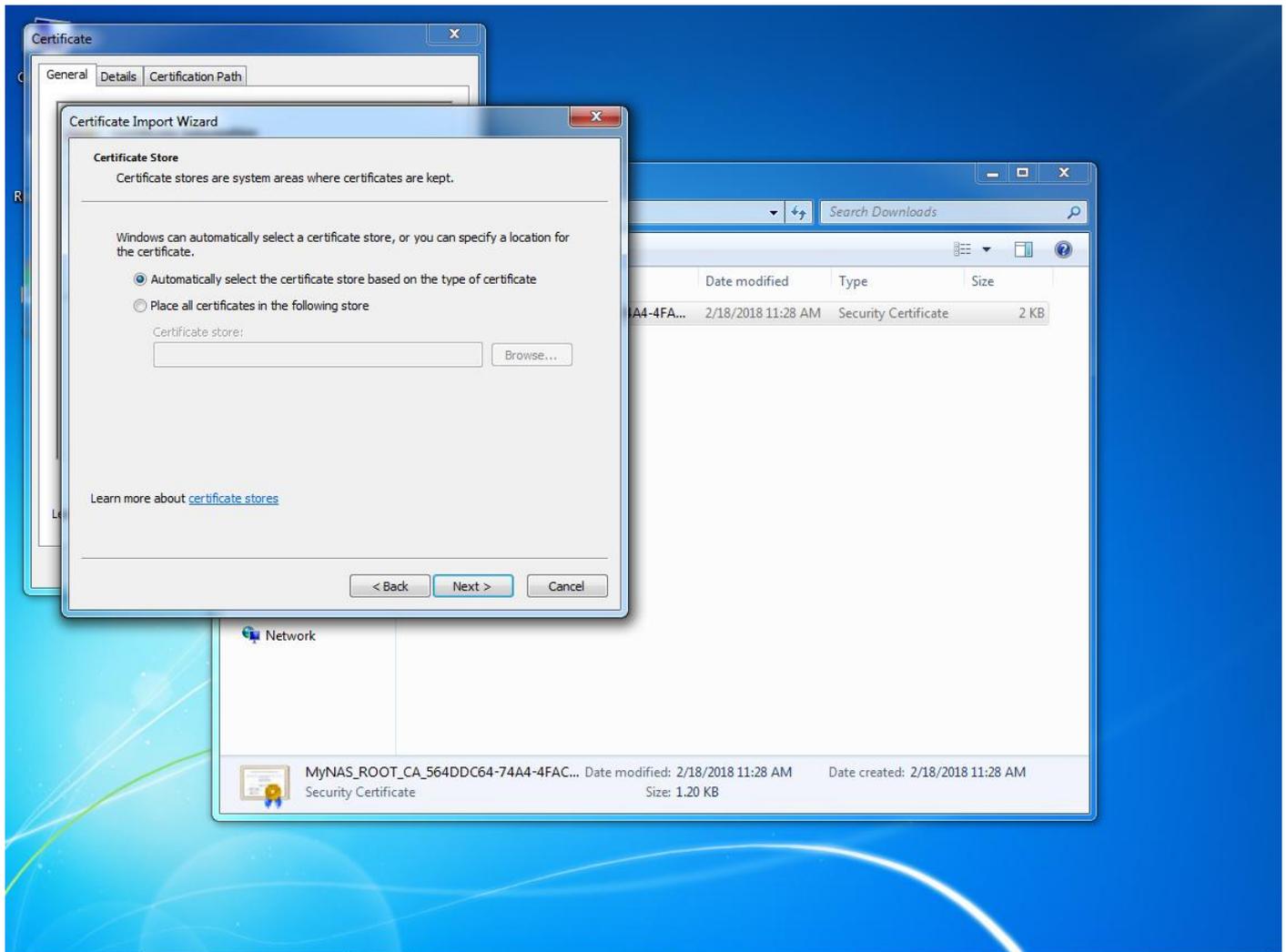
Double click the MyNAS Storage Appliance Root CA to open it



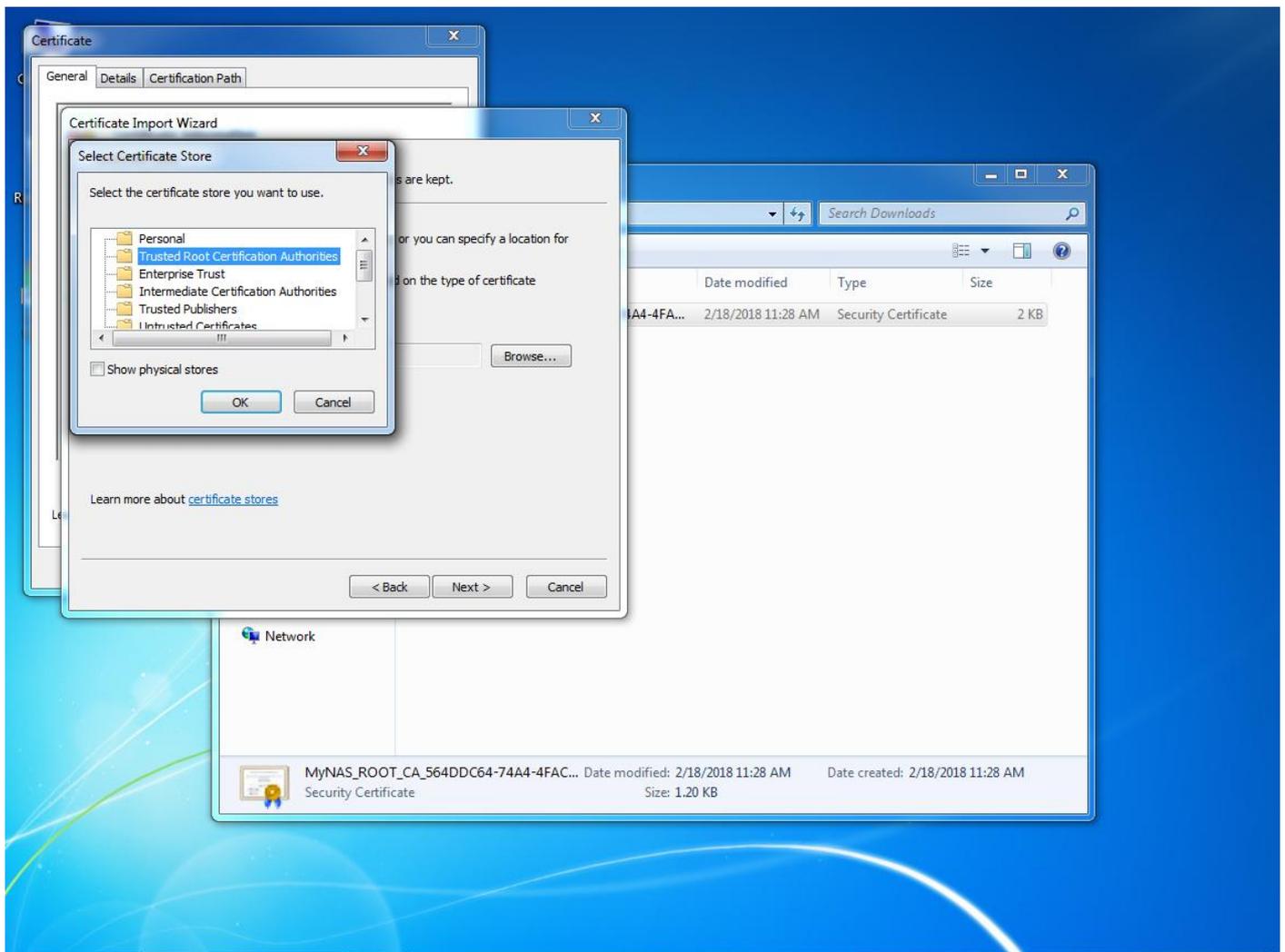
Click the 'Install Certificate...' button to install the certificate and the following wizard will appear



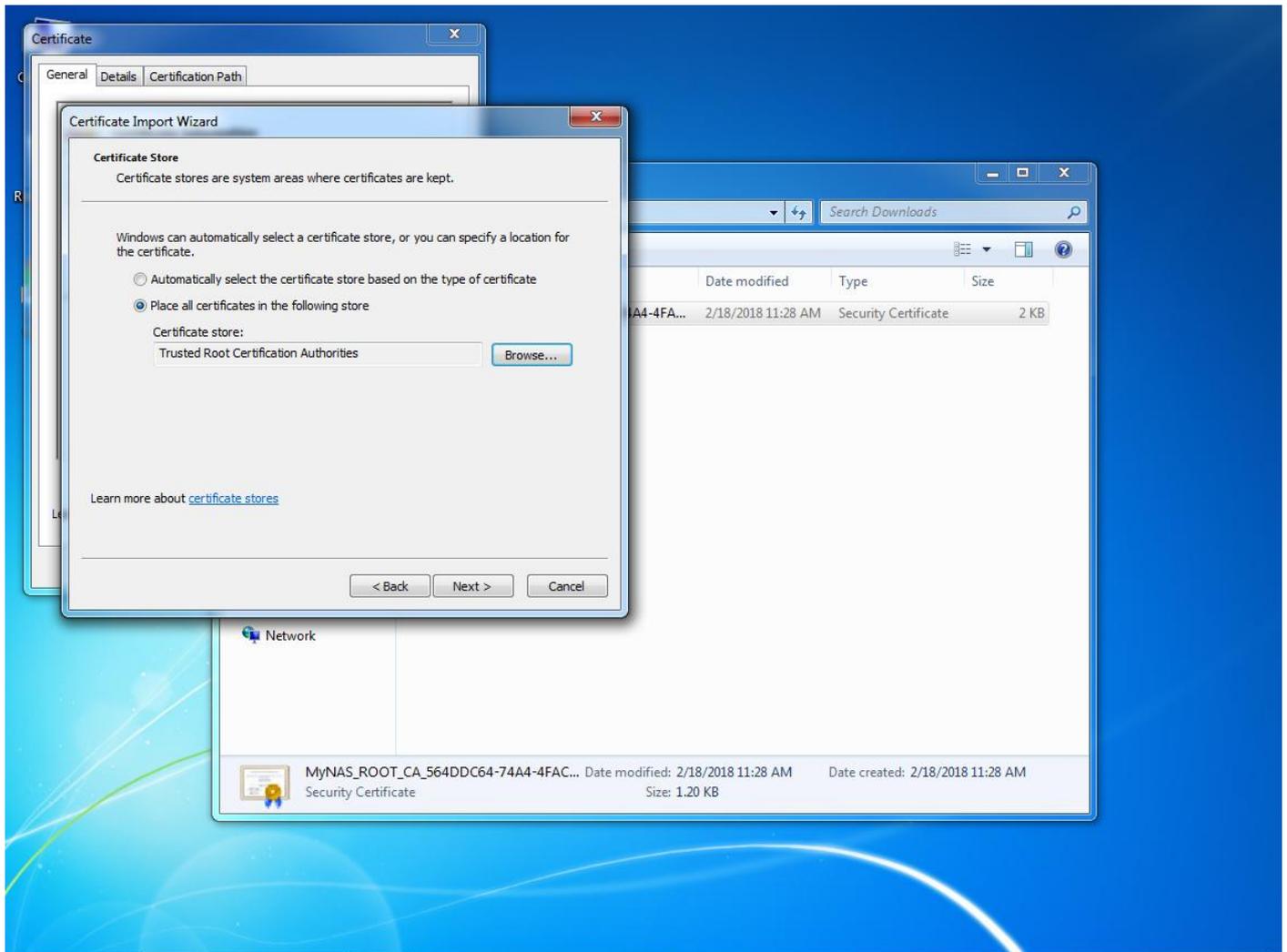
Click 'Next' to start



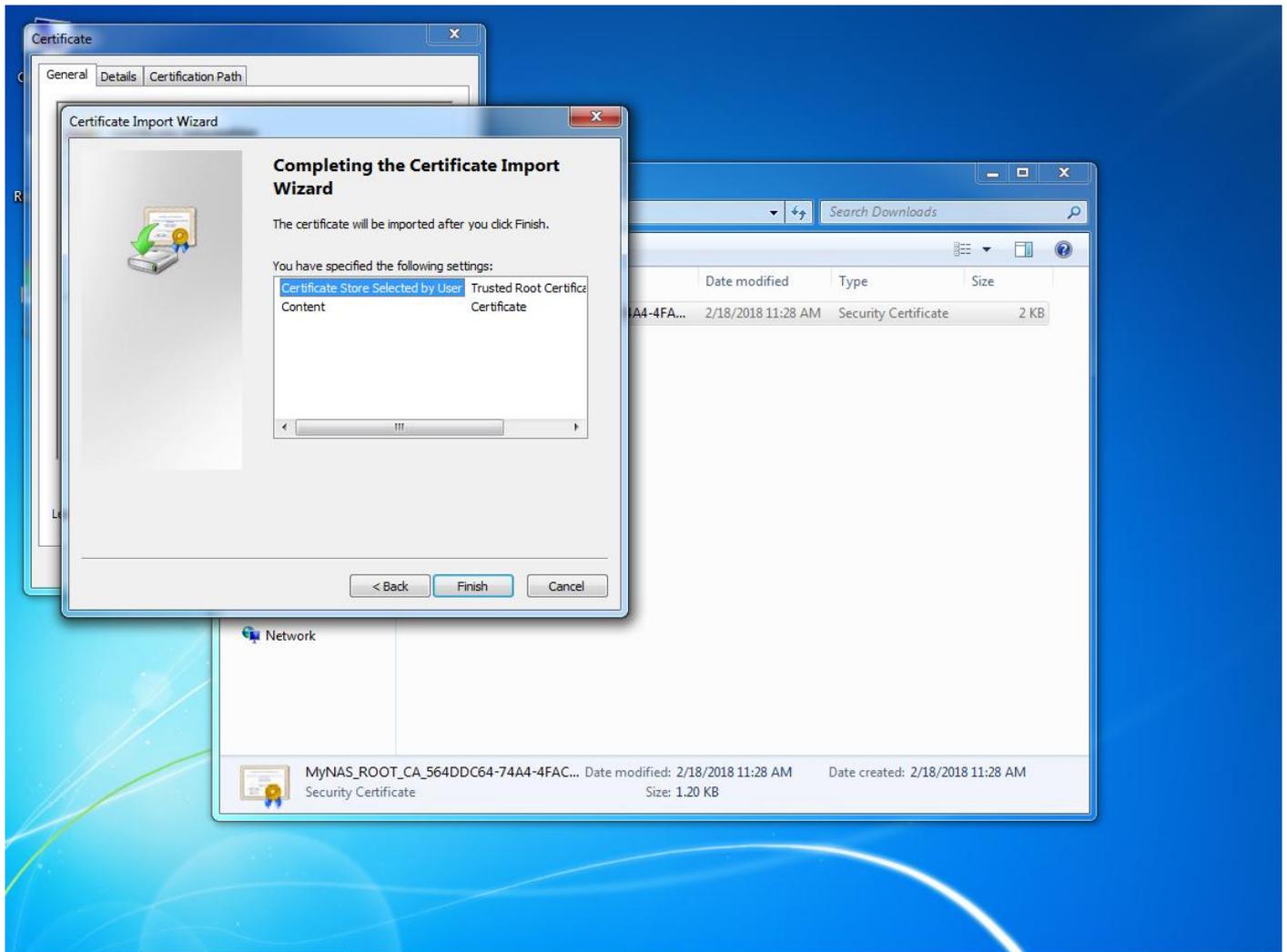
Select to "Place all certificates in the following store" option, then click the 'Browse' button.



Select the "Trusted Root Certification Authorities", and click OK.

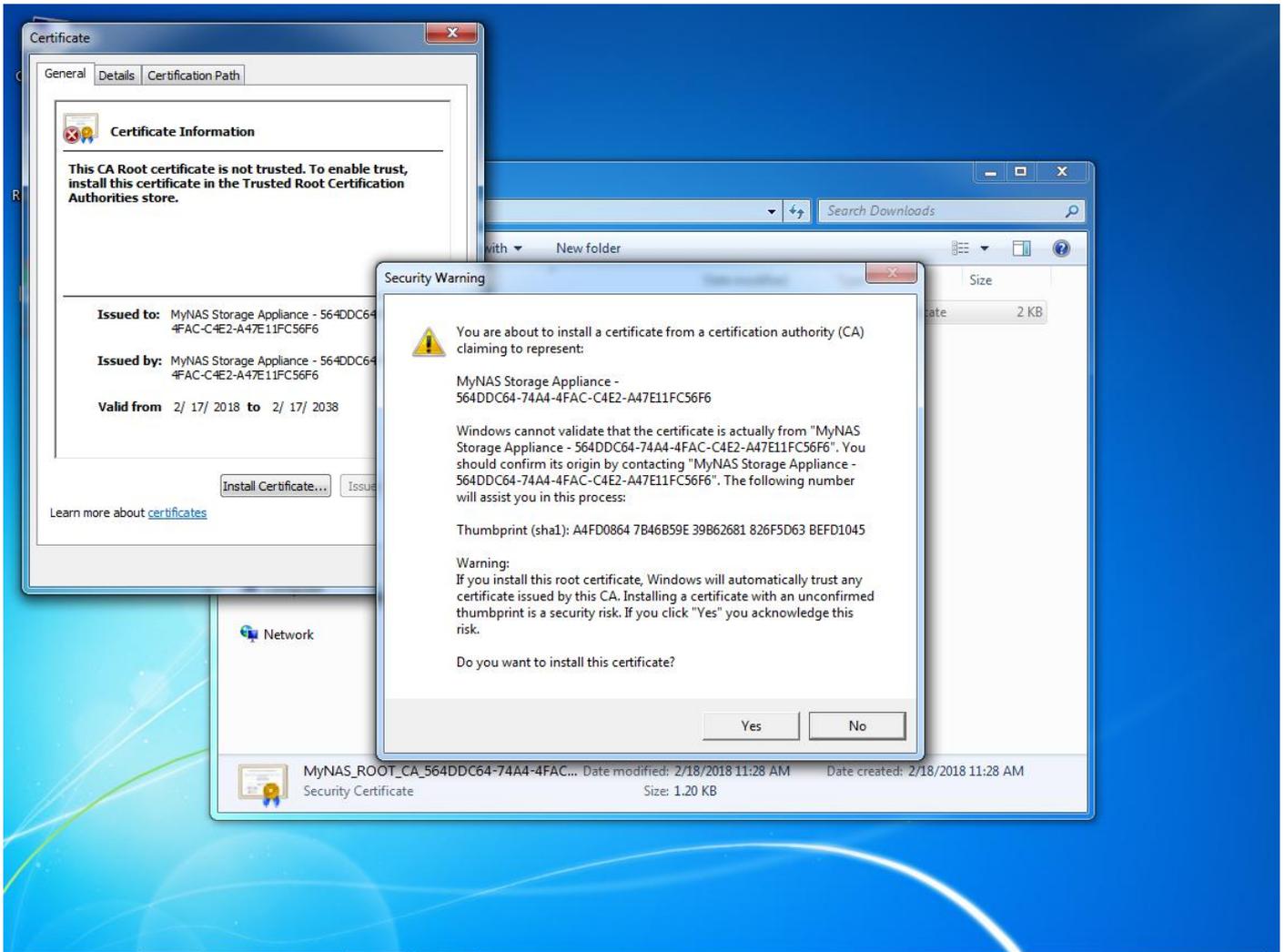


Click 'Next' to continue.

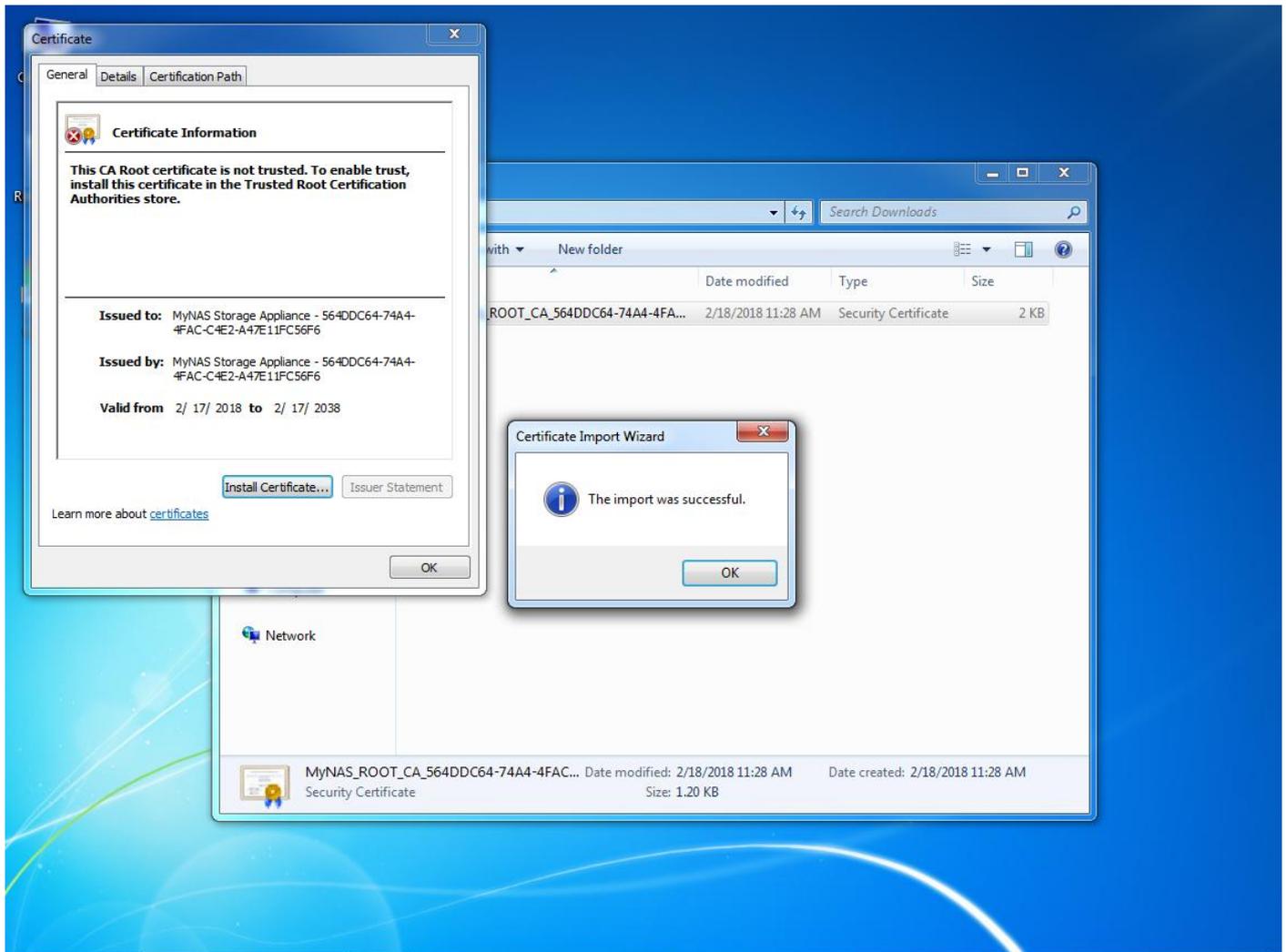


Click 'Finish' to begin the import of the SSL Certificate.

A security warning will display about installing a certificate claiming to represent your MyNAS Storage Appliance.



Click 'Yes' to install this certificate.

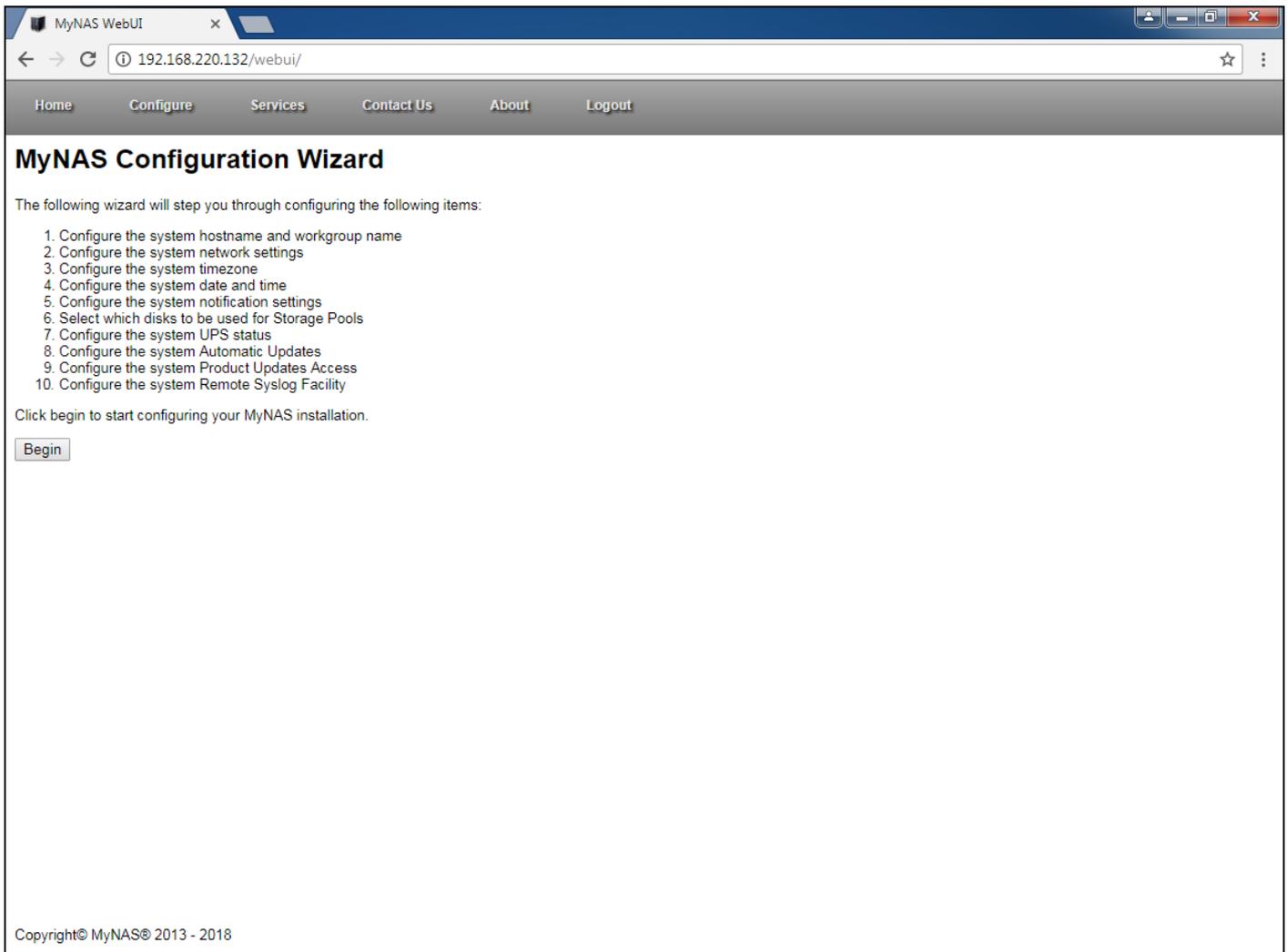


Click 'OK' to close any open dialog boxes.

The MyNAS Storage Appliance Root CA is now installed as a Trusted Root CA.

Logging into the MyNAS WebUI for the first time as 'enable'

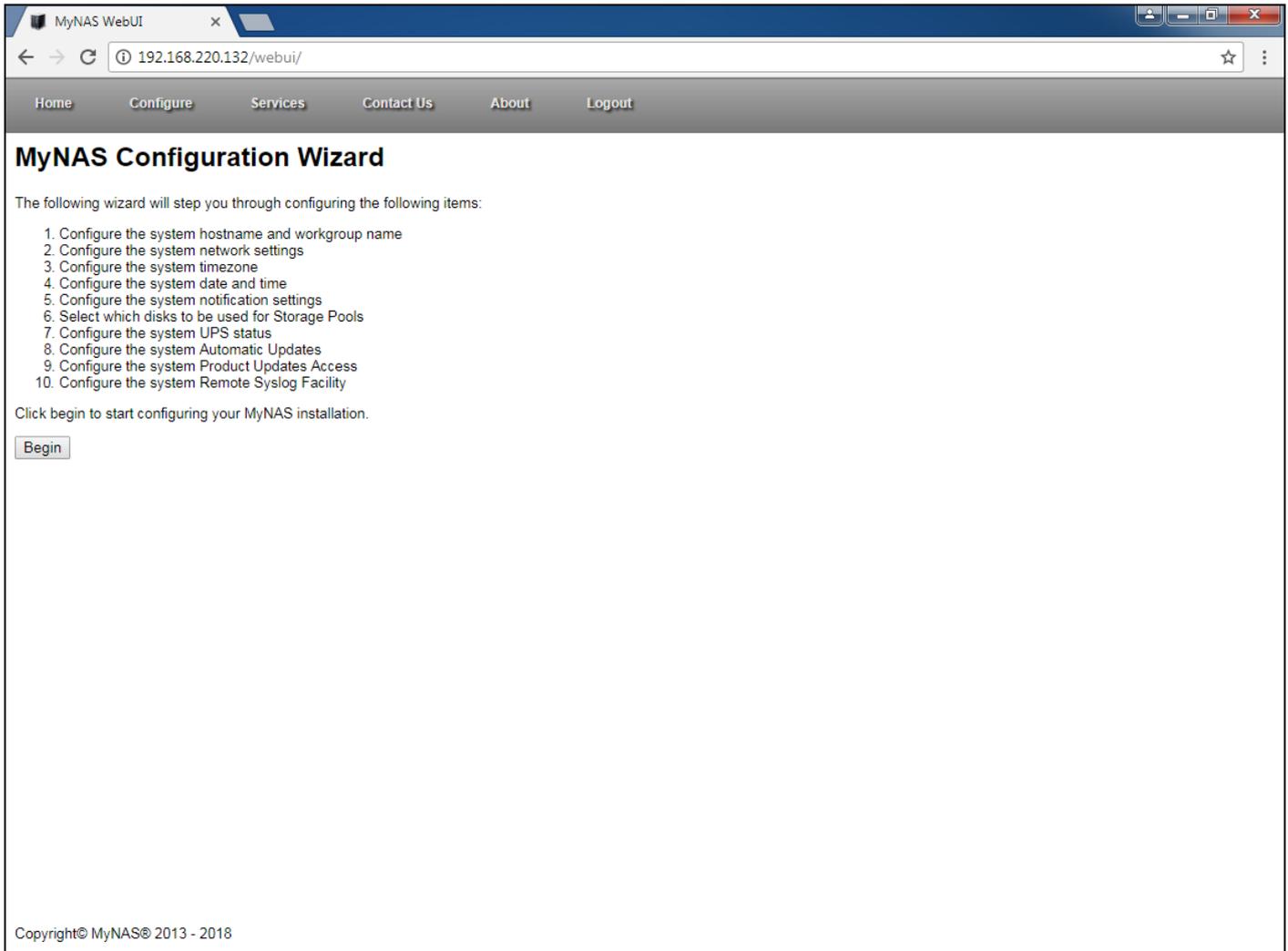
Click Logout from the menu bar, and login as the enable user. As this is a new install, the MyNAS setup wizard will request to be run as illustrated below:



Running the MyNAS Configuration Wizard

The MyNAS Configuration Wizard can be run at any time. The wizard will initially request to be run after the initial installation, however this can be run again at any time by selecting the 'Setup Wizard' from the 'Configure' menu item.

Follow the details below to guide you through configuring MyNAS using the Configuration Wizard. From the initial Configuration Wizard screen, click 'Begin'.



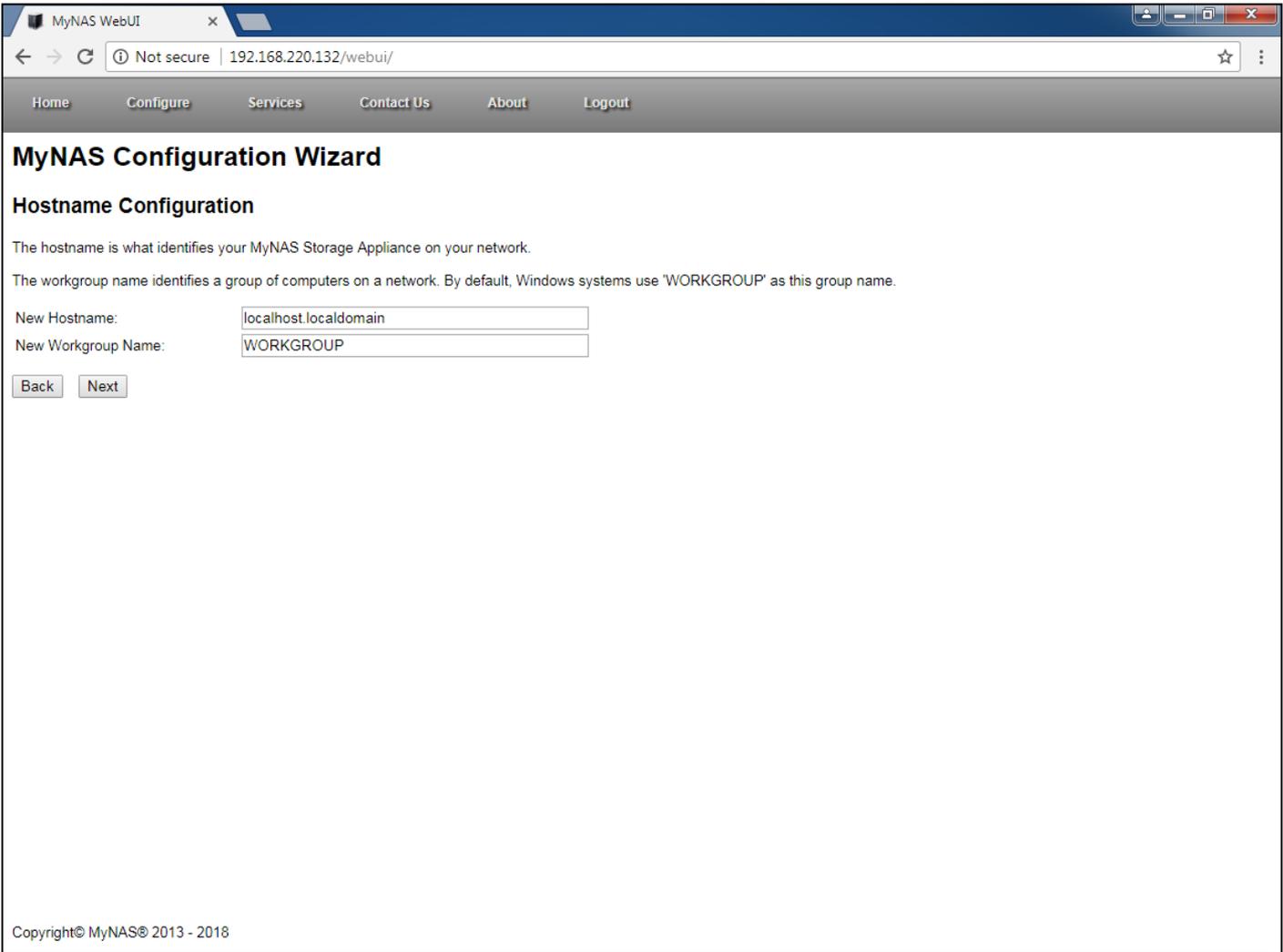
Configure the MyNAS Hostname

The system hostname is what identifies MyNAS on your network. You can call this whatever you like, however there are some restrictions:

- Only alpha numeric characters
- Special characters cannot be used
- Characters such as '-' (dash) and '_' (underscore) are valid characters

Replace 'localhost.localdomain' with your choice of hostname.

To change the Windows Workgroup from the default of 'WORKGROUP', replace 'WORKGROUP' with the applicable entry.



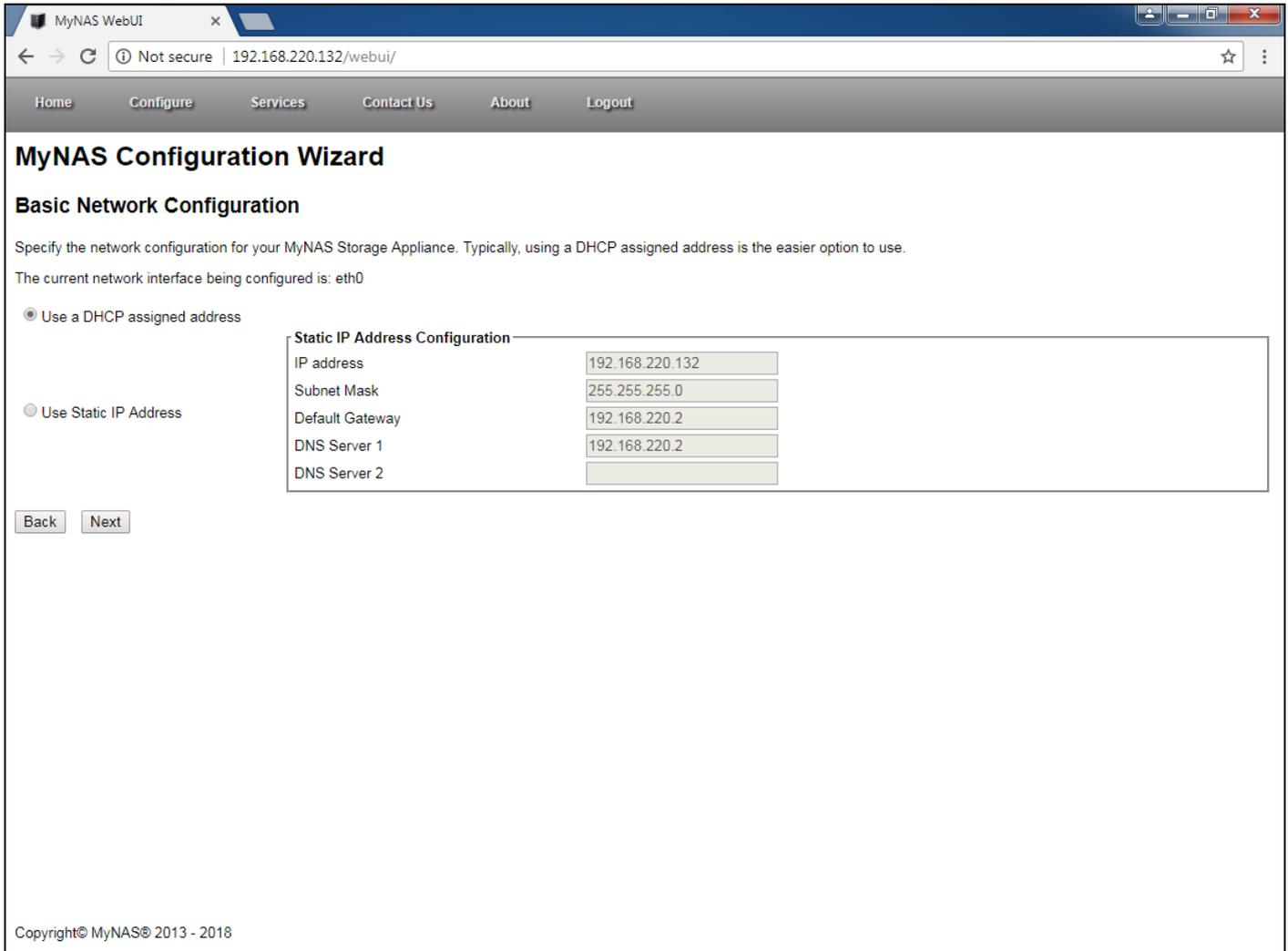
The screenshot shows a web browser window titled 'MyNAS WebUI' with the address bar displaying '192.168.220.132/webui/'. The browser's address bar also shows 'Not secure'. The page has a navigation menu with 'Home', 'Configure', 'Services', 'Contact Us', 'About', and 'Logout'. The main content area is titled 'MyNAS Configuration Wizard' and 'Hostname Configuration'. It contains the following text: 'The hostname is what identifies your MyNAS Storage Appliance on your network.' and 'The workgroup name identifies a group of computers on a network. By default, Windows systems use 'WORKGROUP' as this group name.' Below this text are two input fields: 'New Hostname:' with the value 'localhost.localdomain' and 'New Workgroup Name:' with the value 'WORKGROUP'. At the bottom of the form are two buttons: 'Back' and 'Next'. The footer of the page reads 'Copyright© MyNAS® 2013 - 2018'.

Once configured, click 'Next' to continue.

Configure the MyNAS Basic Network Settings

The network settings is what allows MyNAS to communicate on the network. If you are using DHCP, it is fine to leave the setting at its default. If you require a fixed IP address, change the settings to utilise a static address.

If changing to a static IP address, MyNAS will validate the configuration specified.



The screenshot shows the MyNAS WebUI interface. The browser address bar displays '192.168.220.132/webui/'. The navigation menu includes 'Home', 'Configure', 'Services', 'Contact Us', 'About', and 'Logout'. The main heading is 'MyNAS Configuration Wizard' with a sub-heading 'Basic Network Configuration'. Below this, there is a note: 'Specify the network configuration for your MyNAS Storage Appliance. Typically, using a DHCP assigned address is the easier option to use. The current network interface being configured is: eth0'. Two radio buttons are present: 'Use a DHCP assigned address' (which is selected) and 'Use Static IP Address'. A 'Static IP Address Configuration' section contains five input fields: 'IP address' (192.168.220.132), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.220.2), 'DNS Server 1' (192.168.220.2), and 'DNS Server 2' (empty). At the bottom left, there are 'Back' and 'Next' buttons. The footer text reads 'Copyright© MyNAS® 2013 - 2018'.

Once configured, click 'Next' to continue.

Optional: Configure the MyNAS Advanced Network Settings

Note: This configuration screen only displays if there are more than 1 network adaptor in your MyNAS Storage Appliance.

Note: You are unable to configure network bonding if you are running MyNAS Storage Appliance on a virtual platform.

Advanced Network Configuration allows for bonding multiple network cards as a single network device to provide performance and reliability benefits.

If DHCP is currently configured, the following will be displayed:

MyNAS Configuration Wizard

Advanced Network Configuration

Unable to configure Advanced Network Configuration as the following prerequisites were not met:

- Network configuration is set to use a DHCP assigned address

No, do not Configure Network Bonding
 Yes, Configure Network Bonding

Network Bonding Configuration

Network Card Selection

<input checked="" type="checkbox"/>	eth0 - Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) - MAC Address: 00:15:17:4d:9b:f4
<input checked="" type="checkbox"/>	eth1 - Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) - MAC Address: 00:15:17:4d:9b:f5

Load Balancing Method

However, if a static IP address is being used, network bonding can be configured as illustrated below:

MyNAS Configuration Wizard

Advanced Network Configuration

Do you wish to configure network card bonding due to more than 1 network card being available?

No, do not Configure Network Bonding
 Yes, Configure Network Bonding

Network Bonding Configuration

Network Card Selection

<input checked="" type="checkbox"/>	eth0 - Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) - MAC Address: 00:15:17:4d:9b:f4
<input checked="" type="checkbox"/>	eth1 - Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) - MAC Address: 00:15:17:4d:9b:f5

Load Balancing Method

Load Balance Round Robin:
Transmit packets in sequential order from the first available slave through the last. This mode provides load balancing and fault tolerance.

Load Balance Active / Backup:
Only one slave in the bond is active. A different slave becomes active if, and only if, the active slave fails. The bond's MAC address is externally visible on only one port (network adapter) to avoid confusing the switch. This mode provides fault tolerance. The primary option affects the behaviour of this mode.

Load Balance XOR:
Transmit based on [(source MAC address XOR'd with destination MAC address) modulo slave count]. This selects the same slave for each destination MAC address. This mode provides load balancing and fault tolerance.

Load Balance Broadcast:
Transmits everything on all slave interfaces. This mode provides fault tolerance.

Dynamic Link Aggregation (802.3ad):
IEEE 802.3ad Dynamic link aggregation. Creates aggregation groups that share the same speed and duplex settings. Utilizes all slaves in the active aggregator according to the 802.3ad specification.
Note: This selection requires network switch support and configuration to operate

Adaptive Transmit Load Balance:
Channel bonding that does not require any special switch support. The outgoing traffic is distributed according to the current load (computed relative to the speed) on each slave. Incoming traffic is received by the current slave. If the receiving slave fails, another slave takes over the MAC address of the failed receiving slave.

Select the applicable network cards to use for network bonding together with the applicable load balancing method to use for the bonded interfaces:

Load Balance Round Robin:

Transmit packets in sequential order from the first available slave through the last. This mode provides load balancing and fault tolerance.

Load Balance Active / Backup:

Only one slave in the bond is active. A different slave becomes active if, and only if, the active slave fails. The bond's MAC address is externally visible on only one port (network adapter) to avoid confusing the switch. This mode provides fault tolerance. The primary option affects the behaviour of this mode.

Load Balance XOR:

Transmit based on [(source MAC address XOR'd with destination MAC address) modulo slave count]. This selects the same slave for each destination MAC address. This mode provides load balancing and fault tolerance.

Load Balance Broadcast:

Transmits everything on all slave interfaces. This mode provides fault tolerance.

Dynamic Link Aggregation (802.3ad):

IEEE 802.3ad Dynamic link aggregation. Creates aggregation groups that share the same speed and duplex settings. Utilizes all slaves in the active aggregator according to the 802.3ad specification.

Note: This selection requires network switch support and configuration to operate

Adaptive Transmit Load Balance:

Channel bonding that does not require any special switch support. The outgoing traffic is distributed according to the current load (computed relative to the speed) on each slave. Incoming traffic is received by the current slave. If the receiving slave fails, another slave takes over the MAC address of the failed receiving slave.

Adaptive Load Balance:

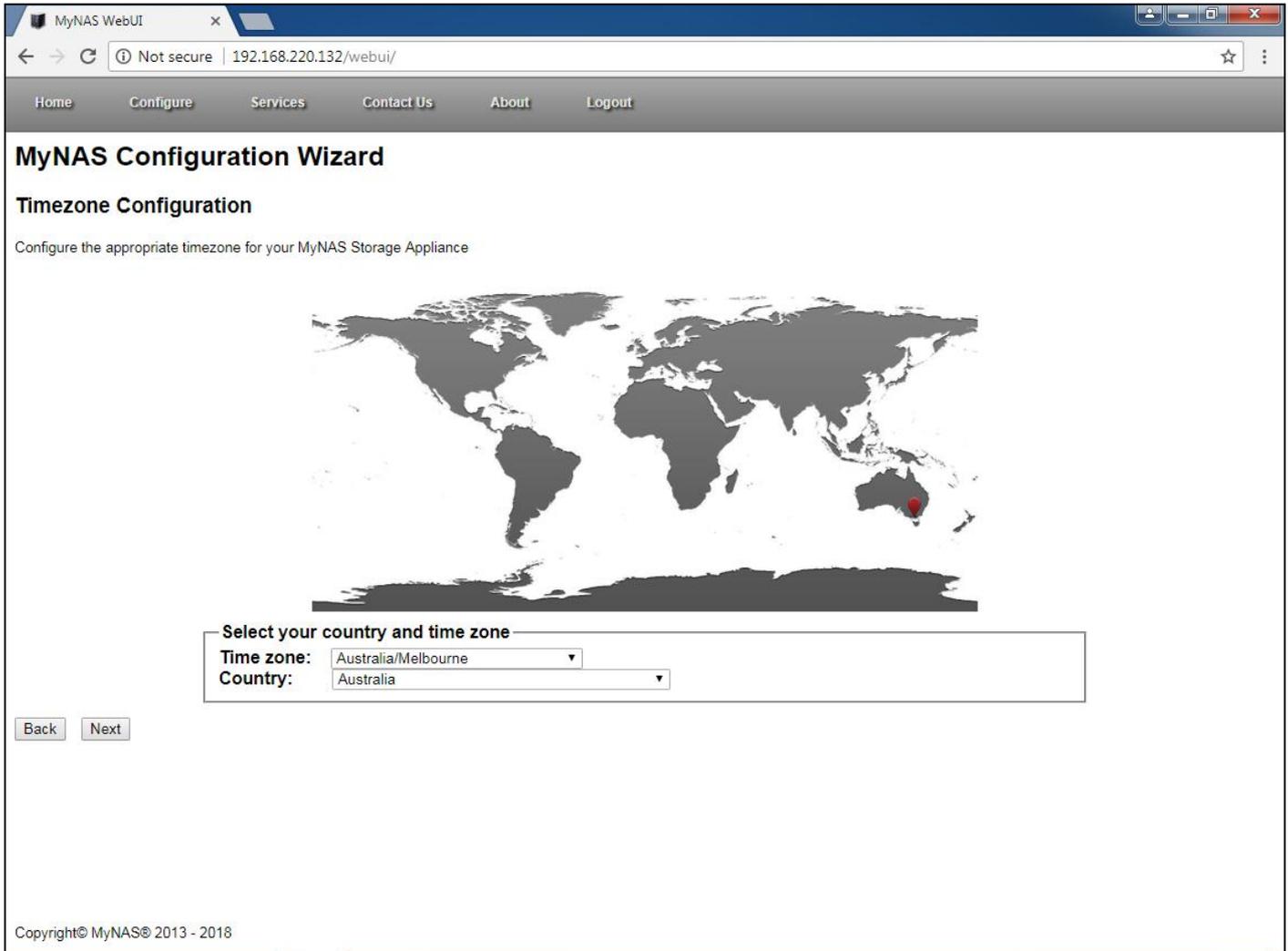
Adaptive load balancing: includes balance-tlb plus receive load balancing (rlb) for IPV4 traffic, and does not require any special switch support. The receive load balancing is achieved by ARP negotiation. The bonding driver intercepts the ARP Replies sent by the local system on their way out and overwrites the source hardware address with the unique hardware address of one of the slaves in the bond such that different peers use different hardware addresses for the server.

Once selected, click 'Next' to continue

Configure the MyNAS Time Zone setting

During the initial installation you would have selected an appropriate time zone for your system. The Configuration Wizard now validates this selection, or you can change the selection if required.

Choose the applicable time zone for your MyNAS installation.



Once configured, click 'Next' to continue.

Configure the MyNAS Date and Time setting

The MyNAS Configuration Wizard now prompts to validate the current system time of your MyNAS installation, based on the time zone that was previously selected.

If the calculated date and time displayed is incorrect for your current date and time, change the date and time as required.

The screenshot shows a web browser window titled "MyNAS WebUI" with the address bar displaying "192.168.220.132/webui/". The navigation menu includes "Home", "Configure", "Services", "Contact Us", "About", and "Logout". The main content area is titled "MyNAS Configuration Wizard" and "Date and Time Configuration". It instructs the user to "Configure the appropriate date and time for your MyNAS Storage Appliance". The current system time is shown as "11:50:46 AM" and the current system date as "Sunday, February 18th, 2018". There are two radio buttons: "Use current system date and time" (selected) and "Change system date and time". Below this is a section for "New System Date and Time" with dropdown menus for Hour (11), Minutes (50), AM/PM (AM), Day (18), Month (February), and Year (2018). At the bottom of the form are "Back" and "Next" buttons. The footer contains the text "Copyright© MyNAS® 2013 - 2018".

Once configured, click 'Next' to continue.

Configure the MyNAS System Event Notification setting

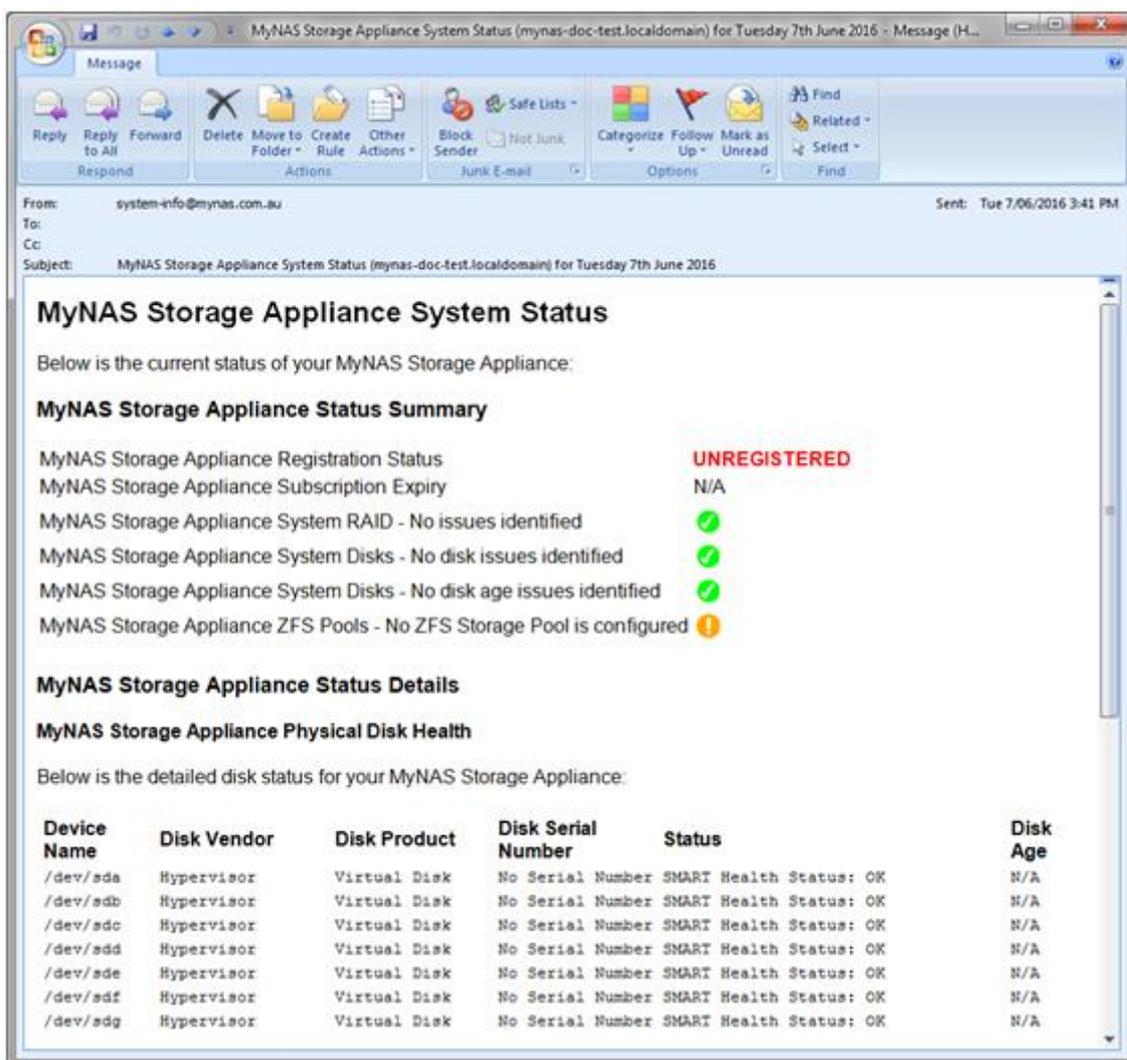
The MyNAS System Event Notifications allows you to configure a notification email address where MyNAS Storage Appliance 'events' and 'notifications' will be sent. Configuring this email address is an important step as this allows you to receive information about what your MyNAS appliance is doing - what its system health is, are there any updates available or are there any issues to report. The notification frequency of these emails can be either daily, weekly or monthly.

This will also configure the MyNAS appliance to perform daily tasks to perform the following:

- Advise if there are any updates for the MyNAS appliance
- Advise on the system utilisation
- Check and advise on the available disk space on the system
- Check the physical health of the disks attached to the system
- Check the health status of the boot / installation drive if using RAID
- Check the health status of any configured ZFS pools.¹

Note: Your MyNAS appliance will be configured to perform these checks at 2am your local time.

An example of this email is illustrated below:



¹ This does not mean to perform a ZFS pool scrub. These are scheduled and handled independently when a ZFS pool is created

If your ISP Email Server requires authentication, configure the applicable settings for your ISP email server.

The screenshot shows a web browser window titled "MyNAS WebUI" with the address bar displaying "192.168.220.132/webui/". The navigation menu includes "Home", "Configure", "Services", "Contact Us", "About", and "Logout". The main content area is titled "MyNAS Configuration Wizard" and "System Event Notification Configuration".

Configure your notification settings for your MyNAS Storage Appliance:

Your Email Address: [text input field]

Mail From Address: system-info@mynas.com.au

MyNAS Email Notification Frequency: Daily [dropdown menu] **Note:** Any detected hard disk issues will trigger an email outside of this frequency

ISP Email Server Address: [text input field]

ISP Email Server Authentication:

- Not Required
- Yes

ISP Email Server Authentication Settings

Authentication Username	[text input field]
Authentication Password	[text input field]
Authentication Confirmation	[text input field]
SSL Enabled	<input checked="" type="radio"/> SSL is required <input type="radio"/> SSL is not required
Outgoing SMTP Port	465

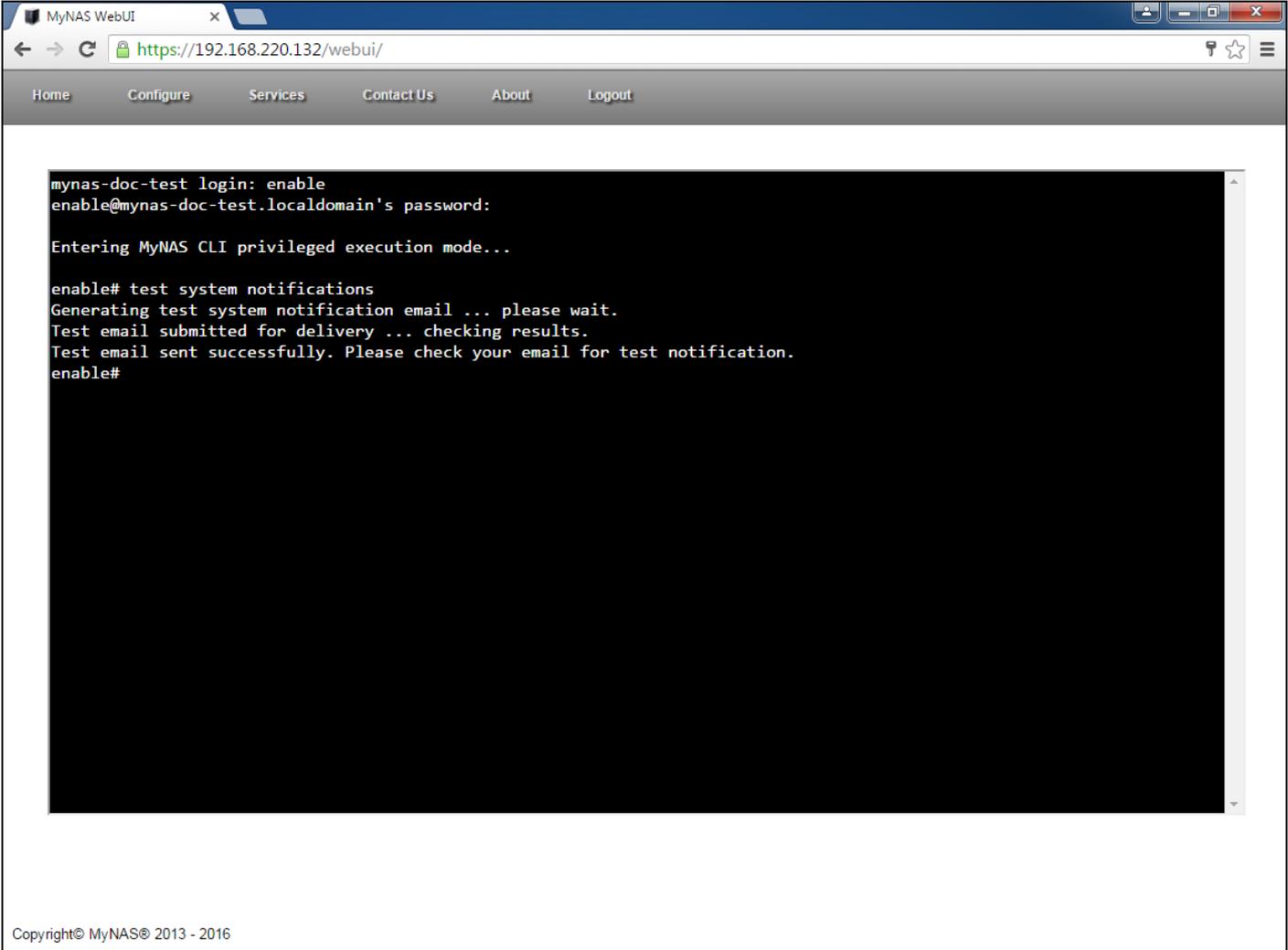
Back Next

Copyright© MyNAS® 2013 - 2018

If you do not know your ISP's email server settings, it is best to visit your ISP's website and search their help section for the relevant details

Once the system notification configuration is complete, click 'Next' to continue.

Note: Email notifications can also be tested post initial configuration by utilising the Shell Console embedded within the MyNAS Storage Appliance interface as illustrated below:



The screenshot shows a web browser window titled "MyNAS WebUI" with the address bar displaying "https://192.168.220.132/webui/". The browser's navigation bar includes "Home", "Configure", "Services", "Contact Us", "About", and "Logout". The main content area features a terminal window with the following text:

```
mynas-doc-test login: enable
enable@mynas-doc-test.localdomain's password:

Entering MyNAS CLI privileged execution mode...

enable# test system notifications
Generating test system notification email ... please wait.
Test email submitted for delivery ... checking results.
Test email sent successfully. Please check your email for test notification.
enable#
```

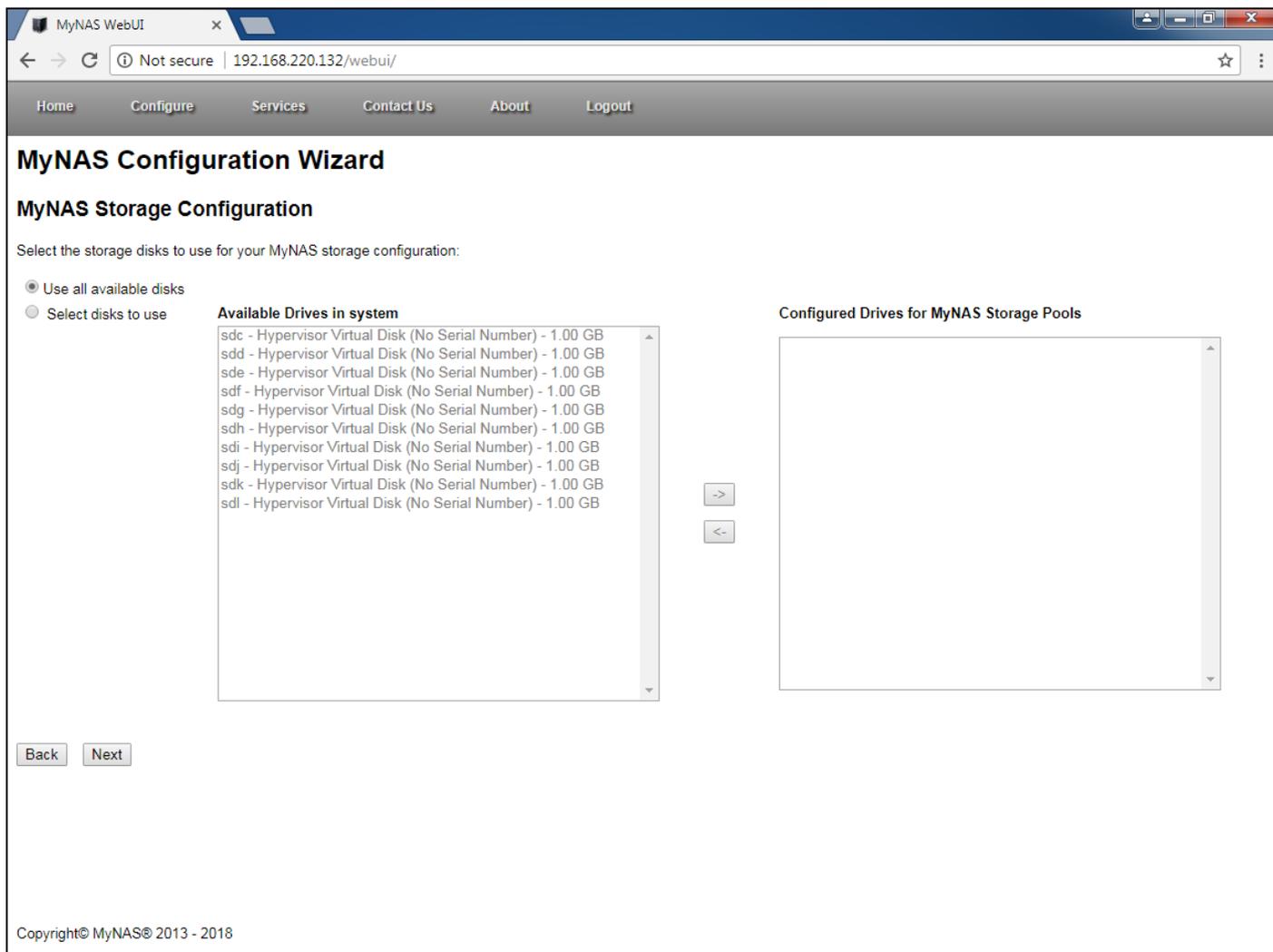
Copyright© MyNAS® 2013 - 2016

Configure the MyNAS ZFS Disk allocation

As a precautionary measure, MyNAS differentiates between what disks are in the system, versus what disks you would like to use for the storage of your data.

As such, this configuration item is where you select what disks you would like MyNAS to identify for use for configuring ZFS. In the majority of cases, select 'Use all available disks' in your system to allow them to be configured for ZFS.

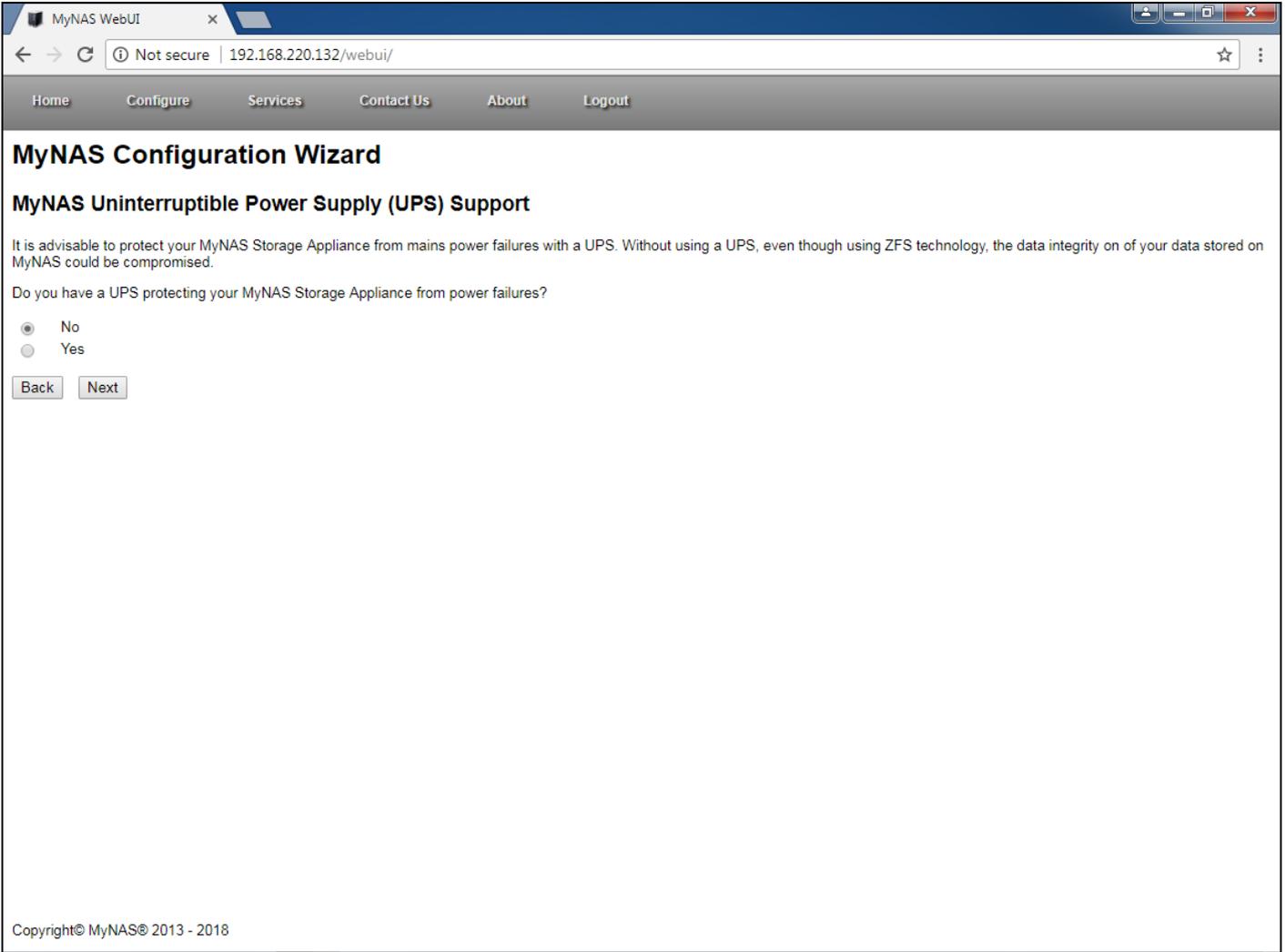
Note: This step does not create or destroy any data on the disks you select, nor does it create any ZFS Volumes or Pools.



Once all disks you wish to use for ZFS are selected, click 'Next' to continue.

Configure MyNAS Uninterruptable Power Supply (UPS) Support

MyNAS recommends the use of a UPS to protect your system from unintentional power outages that could compromise the overall data integrity. Answer 'Yes' if you are using a UPS to provide power backup for your storage appliance:



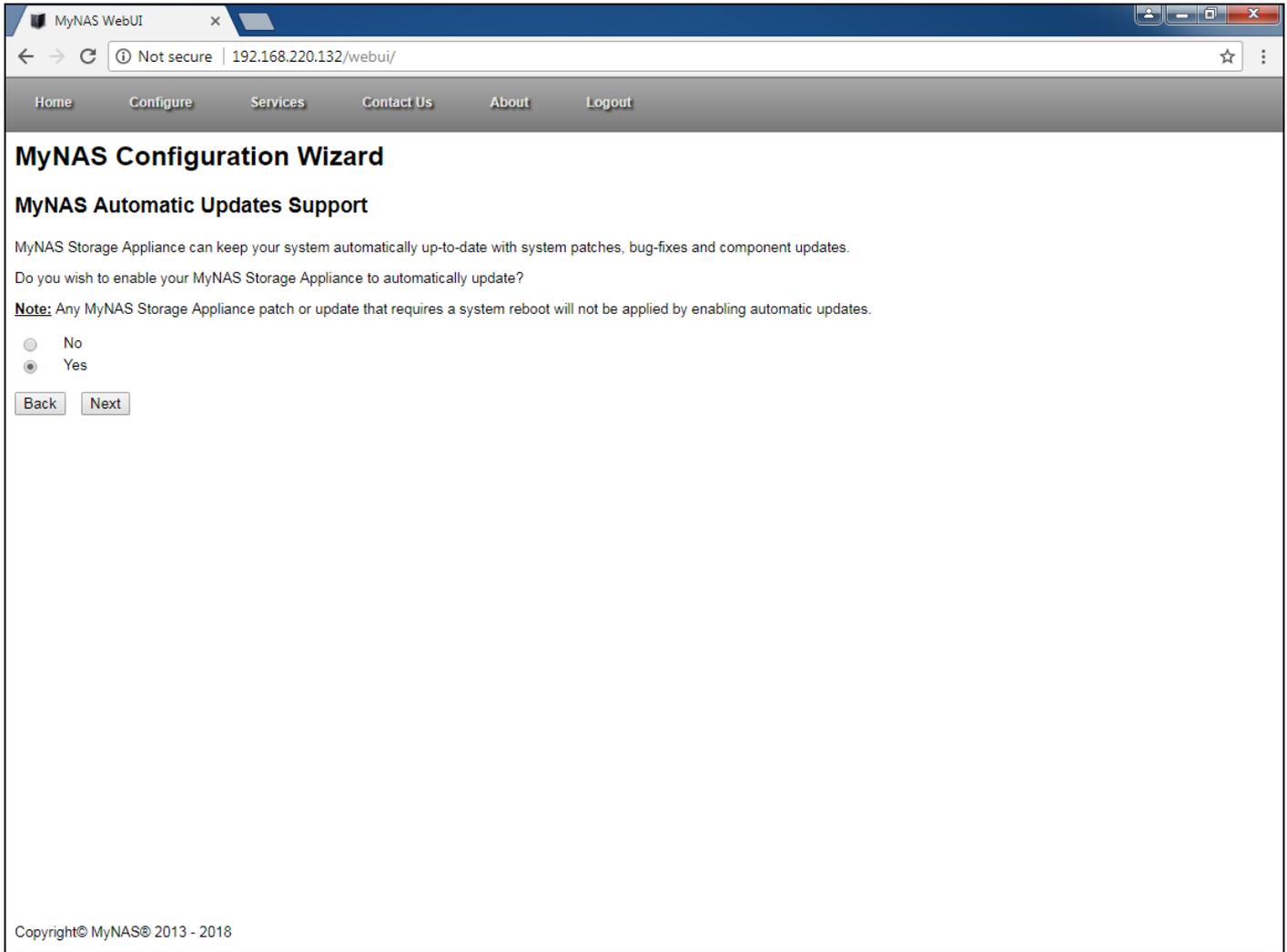
The screenshot shows a web browser window with the address bar displaying "192.168.220.132/webui/". The page title is "MyNAS Configuration Wizard". The main heading is "MyNAS Uninterruptable Power Supply (UPS) Support". Below the heading, there is a paragraph of text: "It is advisable to protect your MyNAS Storage Appliance from mains power failures with a UPS. Without using a UPS, even though using ZFS technology, the data integrity on of your data stored on MyNAS could be compromised." This is followed by the question: "Do you have a UPS protecting your MyNAS Storage Appliance from power failures?". There are two radio button options: "No" (which is selected) and "Yes". At the bottom of the form, there are two buttons: "Back" and "Next". The footer of the page reads "Copyright© MyNAS® 2013 - 2018".

Once the correct UPS setting is selected, click 'Next' to continue.

Configure MyNAS Automatic Updates Support

Starting with MyNAS Storage Appliance v2.0, you can configure MyNAS to automatically download and install updates to keep your system up-to-date.

Note: Any patches that require a system reboot will not be automatically installed.



Once the correct automatic update setting is selected, click 'Next' to continue.

Configure MyNAS Internet Access Configuration

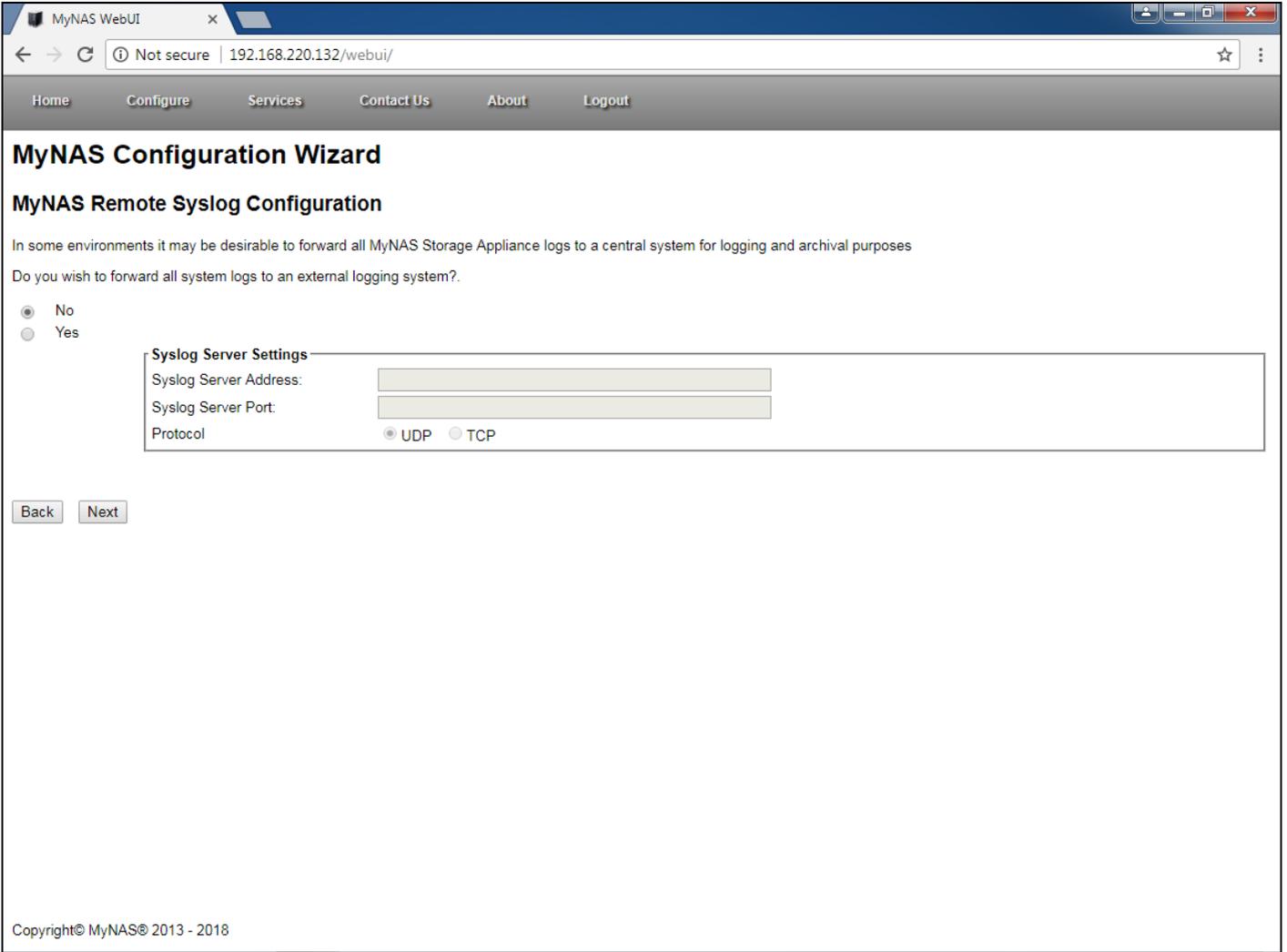
In some circumstances, it may be desirable or required for MyNAS to access the Internet via a proxy server to download updates. If this is required in your environment, configure the applicable settings here:

The screenshot shows a web browser window titled "MyNAS WebUI" with the address bar displaying "192.168.220.132/webui/". The page has a navigation menu with "Home", "Configure", "Services", "Contact Us", "About", and "Logout". The main content area is titled "MyNAS Configuration Wizard" and "MyNAS Internet Access Configuration". It contains the following text: "On your network where you have installed your MyNAS Storage Appliance, in order to access the Internet, do you need to use a proxy server?" and "MyNAS Storage Appliance will access the Internet to download product updates, check product licensing or if using Cloud Replication - communicate with external 3rd party Cloud Storage providers." Below this are two radio buttons: "No" (selected) and "Yes". A "Proxy Server Settings" box contains four input fields: "Proxy Server Address:", "Proxy Server Port:", "Proxy User Name:", and "Proxy User Password:". At the bottom left are "Back" and "Next" buttons. The footer text reads "Copyright© MyNAS® 2013 - 2018".

Once the correct settings are configured, click 'Next' to continue.

Configure MyNAS Remote Syslog Configuration

In some circumstances it may be desirable to have all system notifications from your MyNAS Storage Appliance be sent to a secondary system for log aggregation or analysis. If this is a requirement, configure the applicable settings below. If not, just select No.

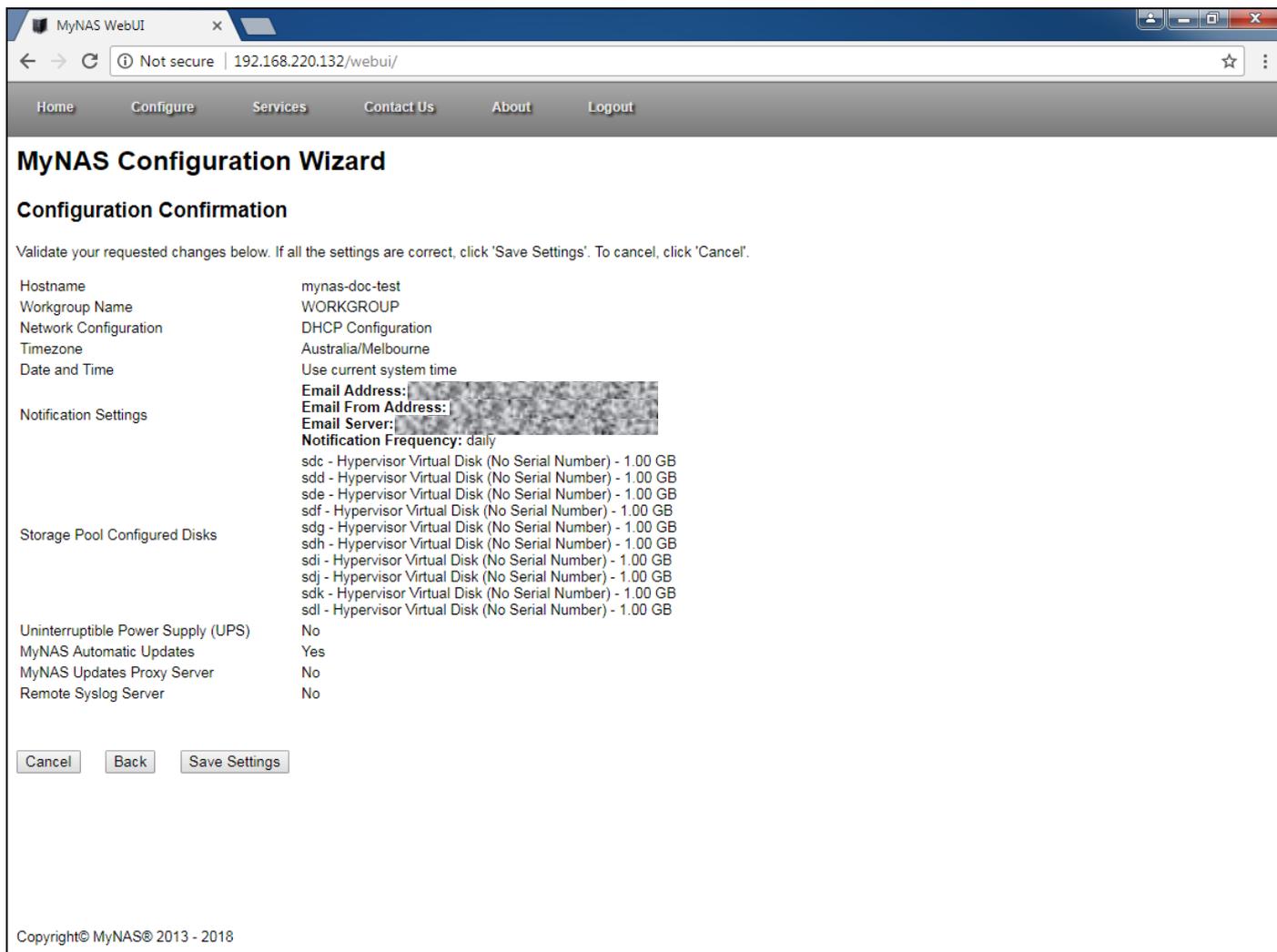


The screenshot shows a web browser window titled "MyNAS WebUI" with the address bar displaying "192.168.220.132/webui/". The navigation menu includes "Home", "Configure", "Services", "Contact Us", "About", and "Logout". The main content area is titled "MyNAS Configuration Wizard" and "MyNAS Remote Syslog Configuration". It contains the following text: "In some environments it may be desirable to forward all MyNAS Storage Appliance logs to a central system for logging and archival purposes" and "Do you wish to forward all system logs to an external logging system?". There are two radio buttons: "No" (selected) and "Yes". Below this is a "Syslog Server Settings" section with three input fields: "Syslog Server Address:", "Syslog Server Port:", and "Protocol". The "Protocol" field has two radio buttons: "UDP" (selected) and "TCP". At the bottom left, there are "Back" and "Next" buttons. The footer text reads "Copyright© MyNAS© 2013 - 2018".

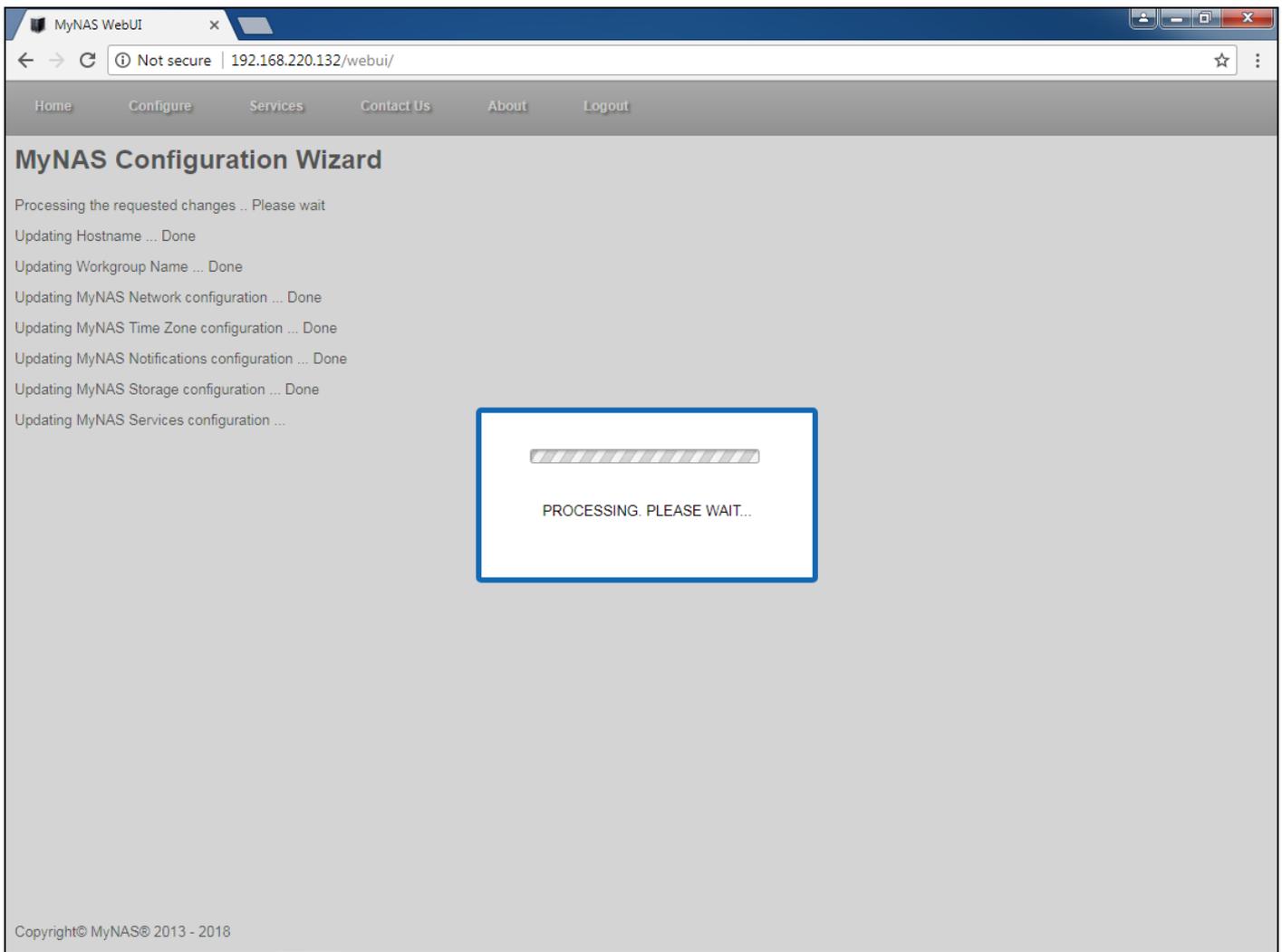
Once the correct settings are configured, click 'Next' to continue.

Confirming the settings from the Configuration Wizard

Once all the initial settings are performed, MyNAS will prompt you to review the selections made. If you wish to make any changes, simply cancel out of the wizard and run the wizard again.



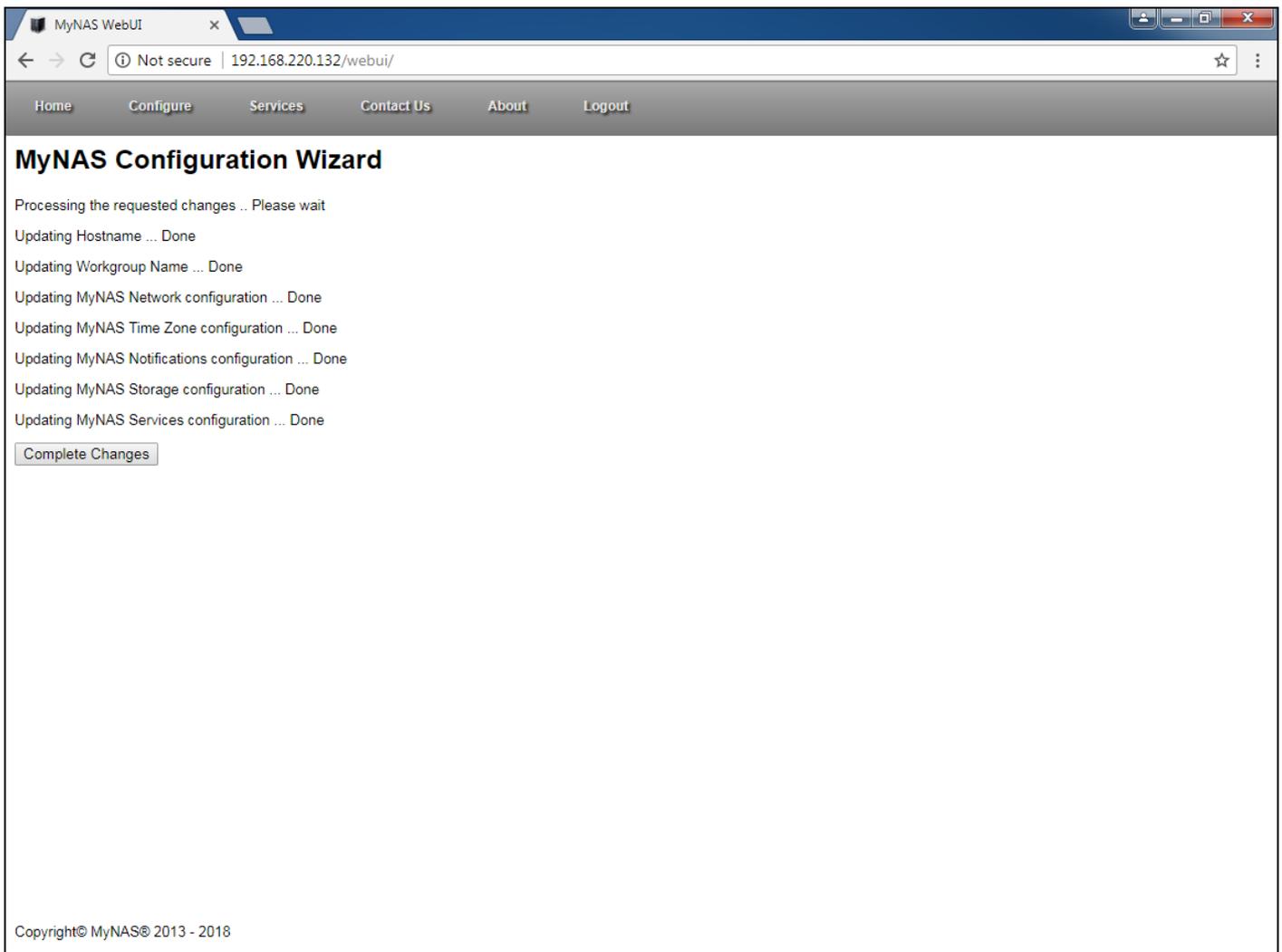
If the settings are all OK, click the 'Save Settings' button to continue. MyNAS will now process the setting configuration change as requested.



After setting up MyNAS for the first time, SSL will be enabled to secure your access to the MyNAS WebUI interface.

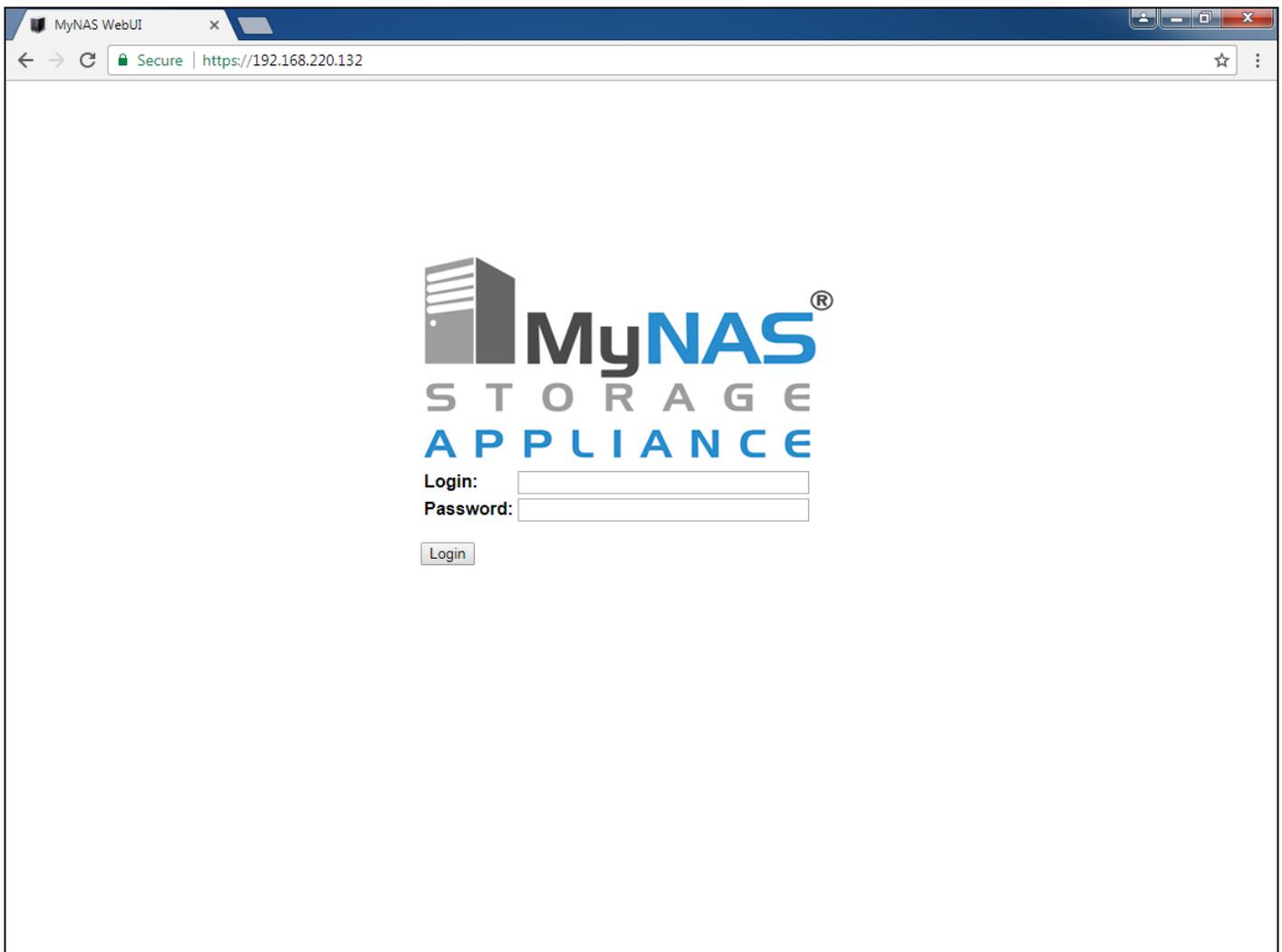
Once the settings have been applied, MyNAS will request to 'Complete Changes', which activates changes such as:

- Enabling of SSL for WebUI access
- Change of IP address should static IP address be selected



Click the 'Complete Changes' button once ready to complete the changes and MyNAS will now log the enable user out of the WebUI, and redirect to the MyNAS Storage Appliance SSL protected interface.

If you have not downloaded and installed the MyNAS Storage Appliance Root CA, your browser will display an SSL warning in regards to the certificate being used. To resolve this issue, you need to download and install the MyNAS Storage Appliance Root CA.



Your MyNAS Storage Appliance initial system configuration is now complete.

For further details on using your MyNAS Storage Appliance, refer to the MyNAS Administration Guide.

Registering your MyNAS® Storage Appliance

By registering your MyNAS Storage Appliance, this provides the you with following benefits whilst a valid subscription is maintained:

- Product Support
- Product Updates
- Full functionality during the evaluation period
- Functionality based on the active subscription after the evaluation period has expired

You can choose not to register your MyNAS Storage Appliance, however in an unregistered state, your MyNAS Storage Appliance functionality will be limited.

MyNAS is also committed to protecting the privacy of your personal information. It endorses fair information handling practices and uses of information in compliance with its obligations under the [Privacy and Data Protection Act 2014 \(Vic\)](#).

Personal information will be used only for the purpose/s intended and where the intention includes confidentiality, information will be treated as such unless otherwise required by law.

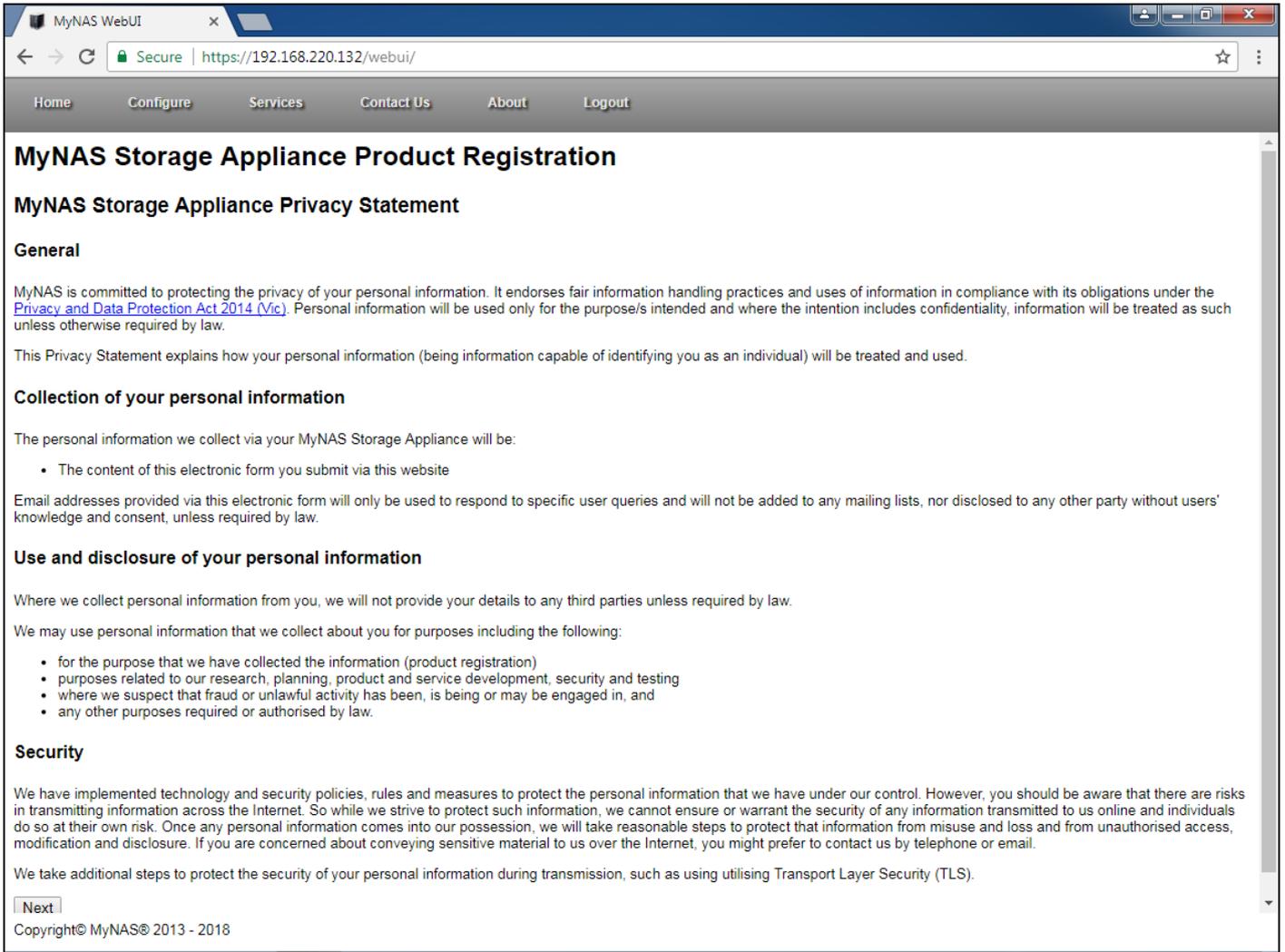
To register your MyNAS Storage Appliance, click on 'Product Registration' to review the MyNAS Storage Appliance Privacy Policy

The screenshot shows the MyNAS WebUI interface. The browser address bar indicates the URL is <https://192.168.220.132/webui/>. The navigation menu includes Home, Configure, Services, Contact Us, About, and Logout. The main content area is titled 'MyNAS Storage Appliance Status' and is divided into three sections:

- System Information:** A table listing system details such as Hostname (mynas-doc-test), Version (MyNAS Release 2.0 (Aberferrie)), Registration Status (UNREGISTERED), Kernel Version (4.4.114-1.el6.x86_64), SPL Version (spl-0.7.6-1.el6.x86_64), ZFS Version (zfs-0.7.6-1.el6.x86_64), IP Address (192.168.220.132), DNS Servers (192.168.220.2), Current Date and Time (Sun Feb 18 12:16:56 AEDT 2018), Uptime (0 days 1 hour(s) 55 minutes), and Load Average (0.00 0.01 0.03).
- Hardware Information:** A table listing hardware details such as Processors (1), Speed (Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz), Freq (2.59 GHz), Memsize (4096 KB), Bogomips (5188.09), Memory (2003.15 MB), Memory (1604.95 MB), and System UUID (564DDC64-74A4-4FAC-C4E2-A47E11FC56F6).
- Storage Device Health:** A table listing storage device health information for various devices (e.g., /dev/sda, /dev/sdb, etc.), including SMART Health Status (OK), Physical Disk Issues (N/A), and Disk Age (N/A).

The 'About' menu is open, showing options: Audit Log, Download Root CA File, Performance Information, **Product Registration** (highlighted), System Configuration, Version History, and Reboot & Shutdown.

At the bottom of the page, the URL <https://192.168.220.132/webui/wizards/registration.php> is visible.



The screenshot shows a web browser window with the title 'MyNAS WebUI'. The address bar shows 'Secure | https://192.168.220.132/webui/'. The navigation menu includes 'Home', 'Configure', 'Services', 'Contact Us', 'About', and 'Logout'. The main content area is titled 'MyNAS Storage Appliance Product Registration' and 'MyNAS Storage Appliance Privacy Statement'. The 'General' section states that MyNAS is committed to protecting privacy and complies with the Privacy and Data Protection Act 2014 (Vic). The 'Collection of your personal information' section lists that the content of the electronic form is collected. The 'Use and disclosure of your personal information' section states that details are not provided to third parties unless required by law. The 'Security' section states that technology and policies are implemented to protect information. A 'Next' button is visible at the bottom left, and the copyright notice 'Copyright© MyNAS© 2013 - 2018' is at the bottom.

MyNAS WebUI

Secure | https://192.168.220.132/webui/

Home Configure Services Contact Us About Logout

MyNAS Storage Appliance Product Registration

MyNAS Storage Appliance Privacy Statement

General

MyNAS is committed to protecting the privacy of your personal information. It endorses fair information handling practices and uses of information in compliance with its obligations under the [Privacy and Data Protection Act 2014 \(Vic\)](#). Personal information will be used only for the purpose/s intended and where the intention includes confidentiality, information will be treated as such unless otherwise required by law.

This Privacy Statement explains how your personal information (being information capable of identifying you as an individual) will be treated and used.

Collection of your personal information

The personal information we collect via your MyNAS Storage Appliance will be:

- The content of this electronic form you submit via this website

Email addresses provided via this electronic form will only be used to respond to specific user queries and will not be added to any mailing lists, nor disclosed to any other party without users' knowledge and consent, unless required by law.

Use and disclosure of your personal information

Where we collect personal information from you, we will not provide your details to any third parties unless required by law.

We may use personal information that we collect about you for purposes including the following:

- for the purpose that we have collected the information (product registration)
- purposes related to our research, planning, product and service development, security and testing
- where we suspect that fraud or unlawful activity has been, is being or may be engaged in, and
- any other purposes required or authorised by law.

Security

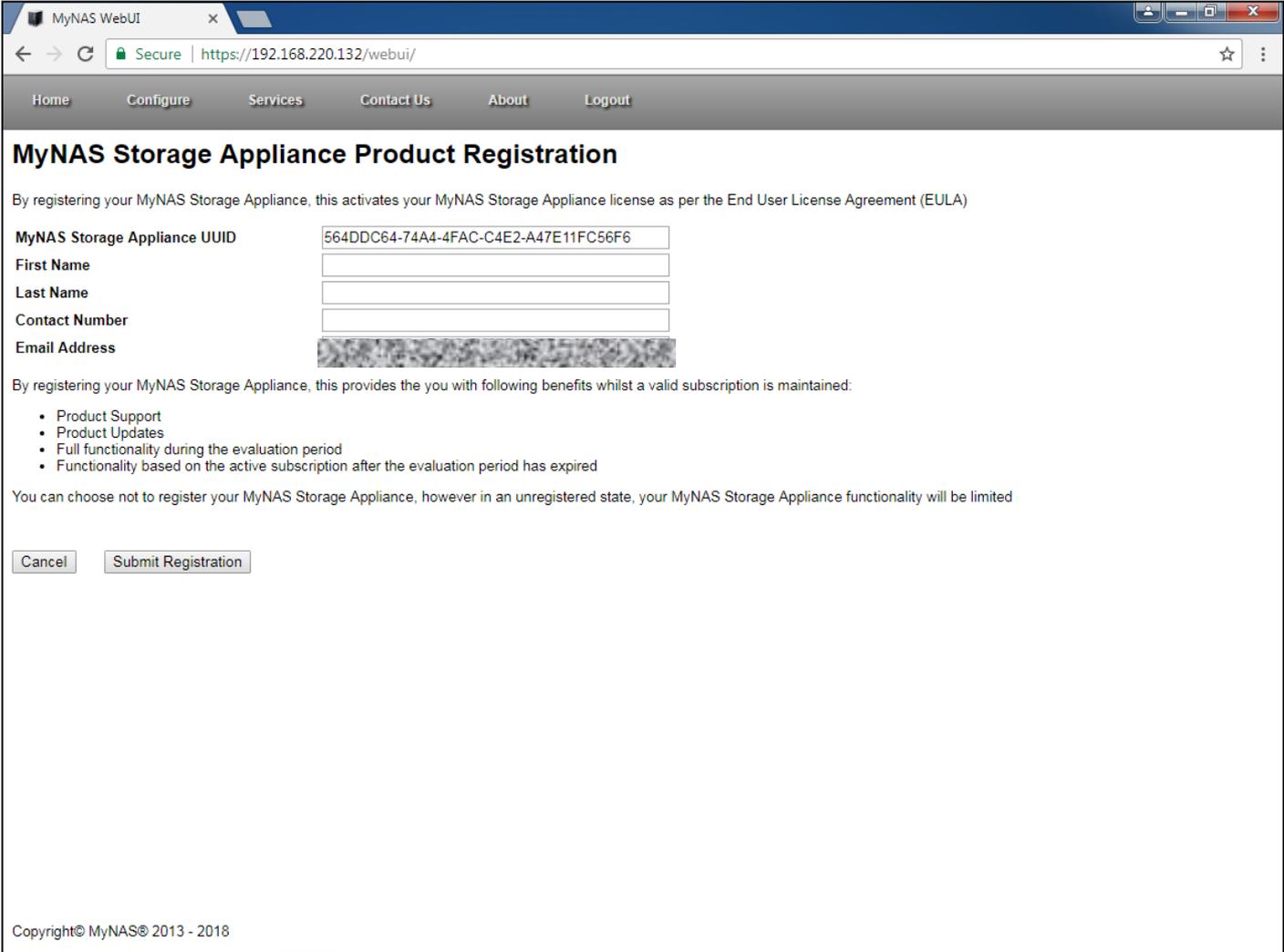
We have implemented technology and security policies, rules and measures to protect the personal information that we have under our control. However, you should be aware that there are risks in transmitting information across the Internet. So while we strive to protect such information, we cannot ensure or warrant the security of any information transmitted to us online and individuals do so at their own risk. Once any personal information comes into our possession, we will take reasonable steps to protect that information from misuse and loss and from unauthorised access, modification and disclosure. If you are concerned about conveying sensitive material to us over the Internet, you might prefer to contact us by telephone or email.

We take additional steps to protect the security of your personal information during transmission, such as using utilising Transport Layer Security (TLS).

Copyright© MyNAS© 2013 - 2018

Click 'Next' to proceed to the product registration page

Fill in the applicable details for your MyNAS Storage Appliance Product Registration:



The screenshot shows a web browser window with the title 'MyNAS WebUI'. The address bar shows 'Secure | https://192.168.220.132/webui/'. The navigation menu includes 'Home', 'Configure', 'Services', 'Contact Us', 'About', and 'Logout'. The main heading is 'MyNAS Storage Appliance Product Registration'. Below the heading, there is a paragraph: 'By registering your MyNAS Storage Appliance, this activates your MyNAS Storage Appliance license as per the End User License Agreement (EULA)'. The form fields are: 'MyNAS Storage Appliance UUID' (pre-filled with '564DDC64-74A4-4FAC-C4E2-A47E11FC56F6'), 'First Name', 'Last Name', 'Contact Number', and 'Email Address'. Below the form, there is a paragraph: 'By registering your MyNAS Storage Appliance, this provides the you with following benefits whilst a valid subscription is maintained:'. This is followed by a bulleted list: 'Product Support', 'Product Updates', 'Full functionality during the evaluation period', and 'Functionality based on the active subscription after the evaluation period has expired'. Below the list, there is a paragraph: 'You can choose not to register your MyNAS Storage Appliance, however in an unregistered state, your MyNAS Storage Appliance functionality will be limited'. At the bottom of the form, there are two buttons: 'Cancel' and 'Submit Registration'. The footer of the page reads 'Copyright© MyNAS® 2013 - 2018'.

MyNAS WebUI x

Secure | https://192.168.220.132/webui/

Home Configure Services Contact Us About Logout

MyNAS Storage Appliance Product Registration

By registering your MyNAS Storage Appliance, this activates your MyNAS Storage Appliance license as per the End User License Agreement (EULA)

MyNAS Storage Appliance UUID

First Name

Last Name

Contact Number

Email Address

By registering your MyNAS Storage Appliance, this provides the you with following benefits whilst a valid subscription is maintained:

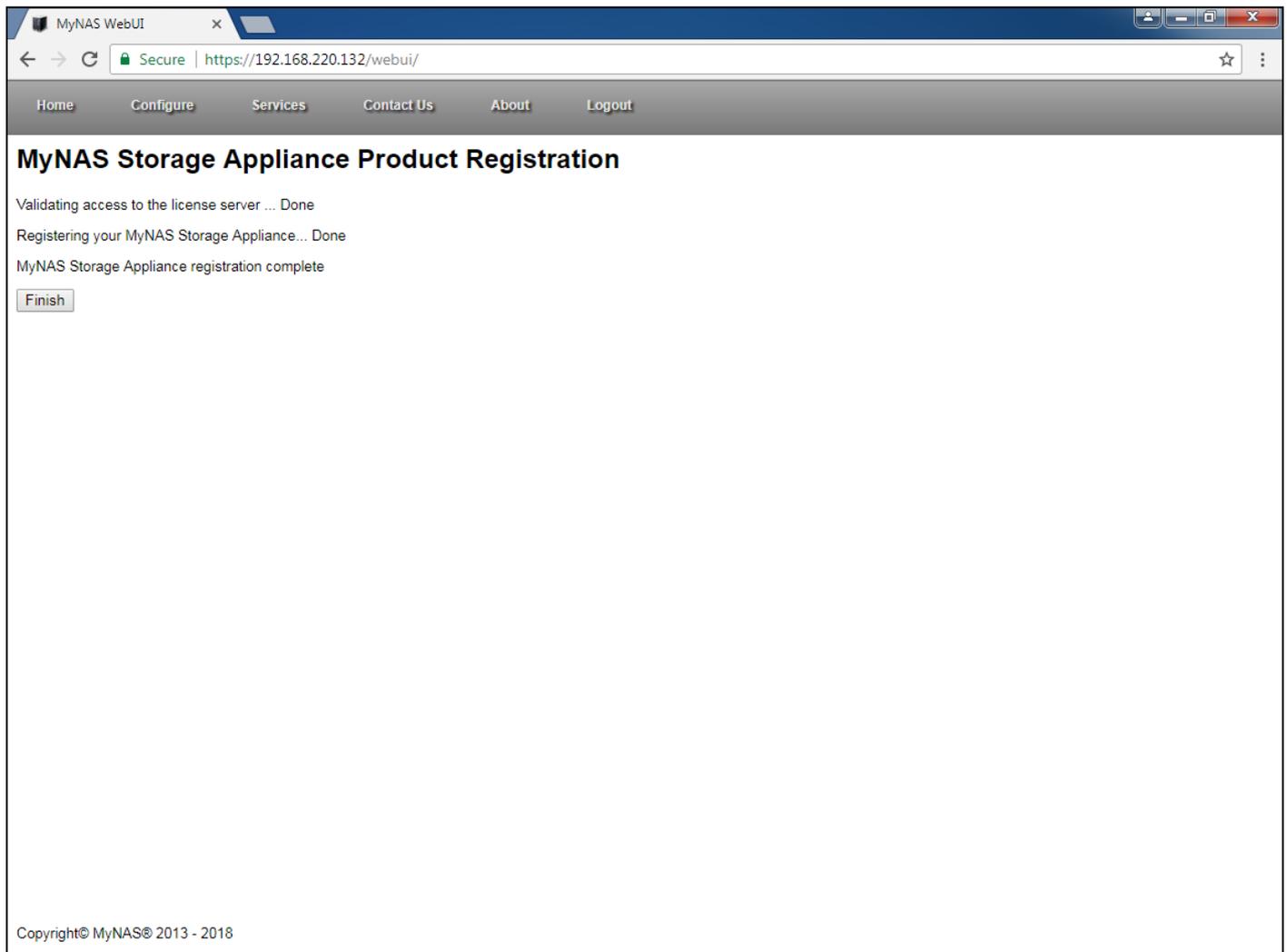
- Product Support
- Product Updates
- Full functionality during the evaluation period
- Functionality based on the active subscription after the evaluation period has expired

You can choose not to register your MyNAS Storage Appliance, however in an unregistered state, your MyNAS Storage Appliance functionality will be limited

Copyright© MyNAS® 2013 - 2018

Once complete, click 'Submit Registration'.

Your MyNAS Storage Appliance will now communicate with the Licensing Server to validate your licensing request



Click 'Finish' to complete the registration process.

Once you log back into your MyNAS Storage Appliance, your license will be upgraded from an unregistered state to at minimum an evaluation license, which is valid for 30 days from the date and time of registration.

The screenshot shows the MyNAS WebUI interface in a browser window. The address bar shows the URL <https://192.168.220.132/webui/>. The navigation menu includes Home, Configure, Services, Contact Us, About, and Logout. The main content area is titled "MyNAS Storage Appliance Status Dashboard" and is divided into three sections: System Information, Hardware Information, and Storage Device Health.

System Information

Hostname	mynas-doc-test
Version	MyNAS Release 2.0 (Aberfeldy)
Registration Status	EVALUATION LICENSE (Evaluation expires: 2018-03-20 12:18:48)
Kernel Version	4.4.114-1.el6.x86_64
SPL Version	spl-0.7.6-1.el6.x86_64
ZFS Version	zfs-0.7.6-1.el6.x86_64
IP Address	192.168.220.132
DNS Servers	192.168.220.2
Current Date and Time	Sun Feb 18 12:20:07 AEDT 2018
Uptime	0 days 1 hour(s) 59 minutes
Load Average	0.10 0.03 0.02

Hardware Information

Total Processors	1
Model	Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz
CPU Speed	2.59 GHz
Cache Size	4096 KB
System Bogomips	5188.09
System Memory	2003.15 MB
Free Memory	1561.74 MB
System UUID	564DDC64-74A4-4FAC-C4E2-A47E11FC56F6

Storage Device Health

Device Name	Status	Physical Disk Issues	Disk Age
/dev/sda	SMART Health Status: OK	N/A	N/A
/dev/sdb	SMART Health Status: OK	N/A	N/A
/dev/sdc	SMART Health Status: OK	N/A	N/A
/dev/sdd	SMART Health Status: OK	N/A	N/A
/dev/sde	SMART Health Status: OK	N/A	N/A
/dev/sdf	SMART Health Status: OK	N/A	N/A
/dev/sdg	SMART Health Status: OK	N/A	N/A
/dev/sdh	SMART Health Status: OK	N/A	N/A
/dev/sdi	SMART Health Status: OK	N/A	N/A
/dev/sdj	SMART Health Status: OK	N/A	N/A
/dev/sdk	SMART Health Status: OK	N/A	N/A
/dev/sdl	SMART Health Status: OK	N/A	N/A

Copyright© MyNAS® 2013 - 2018

MyNAS® Storage Appliance Licensing Models

MyNAS Storage Appliance has the following licensing models:

License Level	Time Period	Functionality	Product Updates & Support	Cost
Unregistered	Not Applicable	As per an expired evaluation state detailed below		Free
Free & Evaluation	30 days from initial registration	<p>As per Full License for the period of Evaluation</p> <p>Once evaluation period expires, the following functionality will be removed:</p> <ul style="list-style-type: none"> • Capability to backup and restore configuration • Product Updates and support • Perform cloud replication to Cloud Replication Partners • Perform data share backups to an external system • Utilise Xen Virtualisation 		Free
Basic License	1 year subscription from purchase date	<ul style="list-style-type: none"> • Creation of Storage Pools, unrestricted in storage size or composition • Creation of Data Shares for use with Microsoft Windows, Apple OS X & Unix systems • Encrypting data stored at rest • Apple OS X Time Machine Support • Creation of iSCSI Targets • Local user access control to Data Shares • Integration with Active Directory for user access control to Data Shares • Local Squid Proxy Server Support • Local Kodi (XBMC) Database Support • Local DLNA Server • Local BitTorrent Client • UPS Support • External Syslog Support • Capability to backup and restore configuration • Capability to backup data shares to local targets 		\$100 AUD

² Product Updates will only be active for 30 days. After this time, access to product updates will stop

License Level	Time Period	Functionality	Product Updates & Support	Cost
Basic License + Cloud Replication	1 year subscription from purchase date	As per Basic License with the following additions: <ul style="list-style-type: none"> Perform cloud replication to Cloud Replication Partners Perform data share backups to an external system 		\$125 AUD
Basic License + Virtualisation	1 year subscription from purchase date	As per Basic License with the following additions: <ul style="list-style-type: none"> Utilise Xen Virtualisation 		\$125 AUD
Full License	1 year subscription from purchase date	As per Basic License with the following additions: <ul style="list-style-type: none"> Utilise Xen Virtualisation Perform cloud replication to Cloud Replication Partners 		\$140 AUD
Upgrade from Basic License to Basic License + Cloud Replication	Use of additional feature until original license expiry	As per Basic License with the following additions: <ul style="list-style-type: none"> Perform cloud replication to Cloud Replication Partners 		\$25 AUD
Upgrade from Basic License to Basic License + Virtualisation	Use of additional feature until original license expiry	As per Basic License with the following additions: <ul style="list-style-type: none"> Utilise Xen Virtualisation 		\$25 AUD
Upgrade from Basic License to Full License	Use of additional features until original license expiry	As per Basic License with the following additions: <ul style="list-style-type: none"> Utilise Xen Virtualisation Perform cloud replication to Cloud Replication Partners 		\$40 AUD

Upgrading your MyNAS® Storage Appliance from an Evaluation License

From your MyNAS Storage Appliance main console, click on the **EVALUATION LICENSE** text to bring up the license purchase wizard

MyNAS Storage Appliance License Purchase

By ensuring your MyNAS Storage Appliance has a valid subscription, this entitles you to the following benefits:

- Product Support
- Product Updates
- Functionality based on the active subscription

MyNAS Storage Appliance provides the following subscription options. The subscription period is for 1 year.

Select the most applicable subscription option for your MyNAS Storage Appliance:

License Type	Functionality	Cost
<input checked="" type="radio"/> Basic License	<ul style="list-style-type: none">• Creation of Storage Pools, unrestricted in storage size or composition• Creation of Data Shares for use with Microsoft Windows, Apple OS X & Unix systems• Encrypting data stored at rest• Apple OS X Time Machine Support• Creation of iSCSI Targets• Local user access control to Data Shares• Integration with Active Directory for user access control to Data Shares• Local Squid Proxy Server Support• Local Kodi (XBMC) Database Support• Local DLNA Server• Local BitTorrent Client• UPS Support• External Syslog Support	\$100 AUD
<input type="radio"/> Basic License + Cloud Replication	<ul style="list-style-type: none">• All Basic Functionality• Cloud Replication support to the following Cloud Storage Providers:<ul style="list-style-type: none">◦ Amazon S3◦ Backblaze B2◦ Google Cloud Storage◦ Google Drive◦ Dropbox◦ ownCloud Service Providers• Perform data share backups to an external system	\$125 AUD
<input type="radio"/> Basic License + Virtualisation	<ul style="list-style-type: none">• All Basic Functionality• Virtualisation support	\$125 AUD
<input type="radio"/> Full License	<ul style="list-style-type: none">• All Basic Functionality• Cloud Replication support• Virtualisation support	\$140 AUD

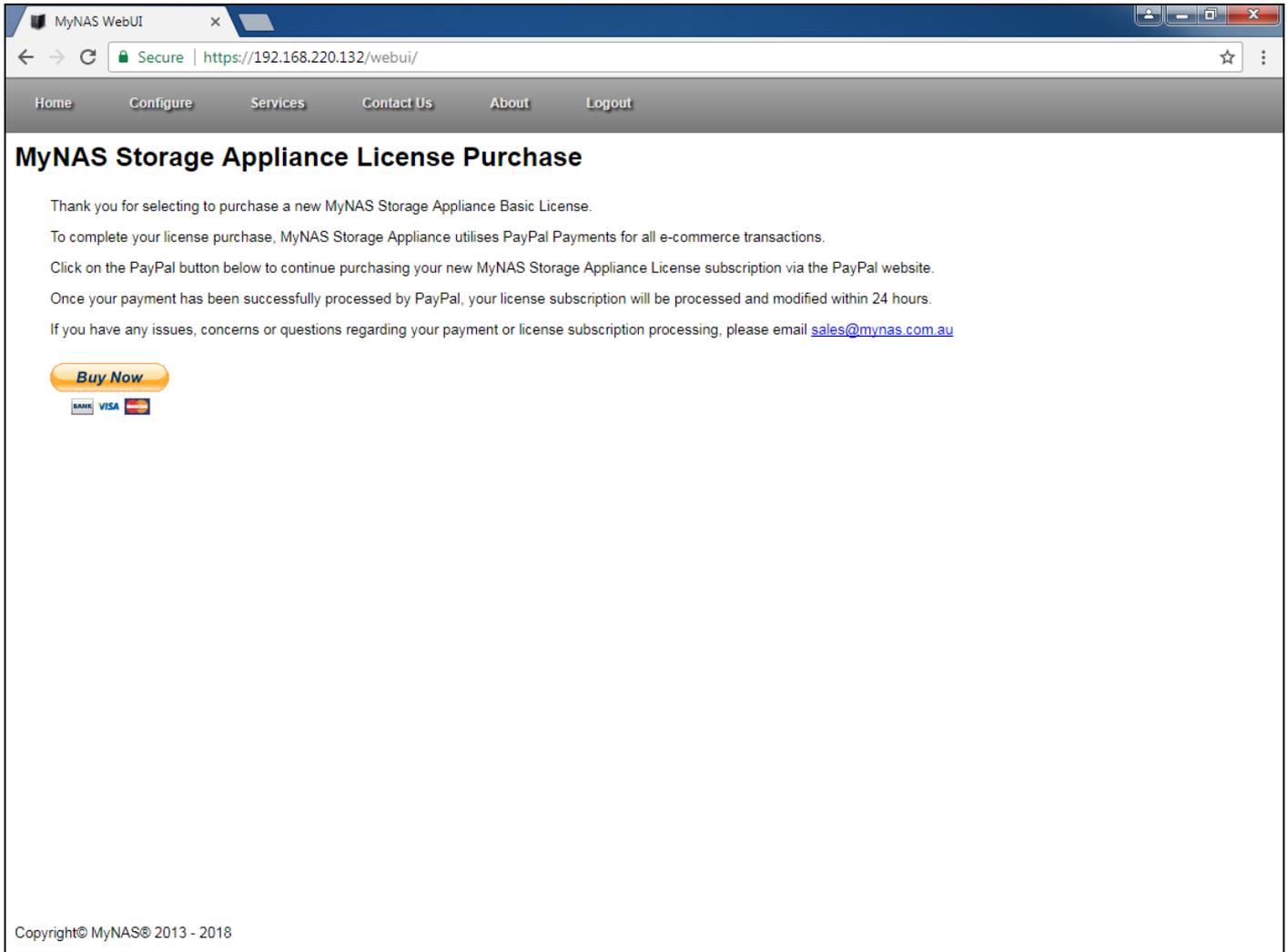
Copyright© MyNAS® 2013 - 2018

Choose the most applicable license for your MyNAS Storage Appliance and click 'Next'

MyNAS Storage Appliance utilises PayPal Payments for all e-commerce transactions.

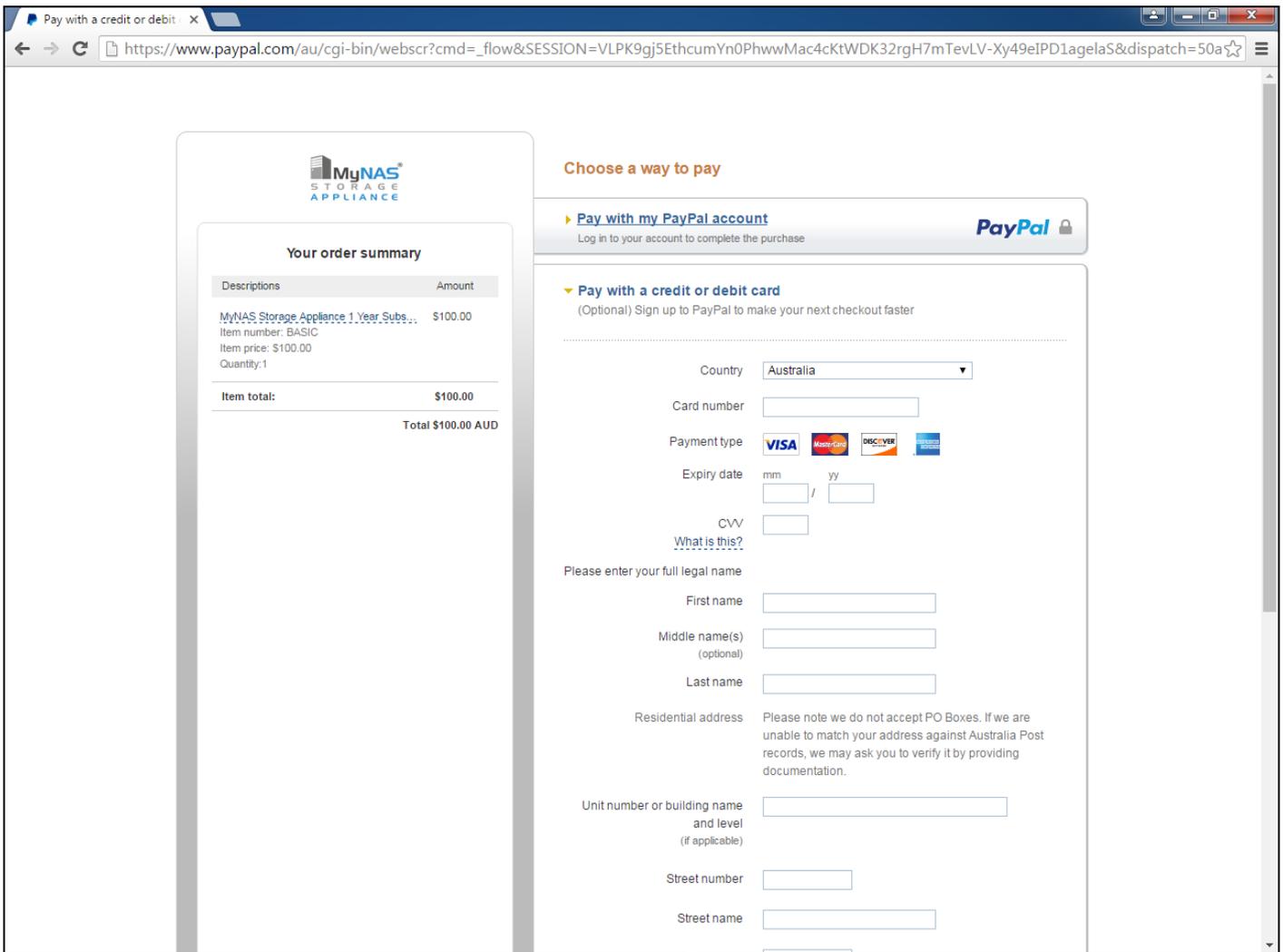
Once your payment has been successfully processed by PayPal, your license subscription will be processed and modified within 24 hours.

If you have any issues, concerns or questions regarding your payment or license subscription processing, please email sales@mynas.com.au



Click the 'Buy Now' button, and you will be taken to the PayPal website to complete your transaction

Once your transaction is complete, MyNAS Storage Appliance will upgrade your license within 24 hours.



Once you receive notification that your license has been upgraded, log into your MyNAS Storage Appliance console to see the new license registration state:

MyNAS Storage Appliance Status Dashboard

System Information	Hardware Information
<p>Hostname mynas-doc-test</p> <p>Version MyNAS Release 2.0 (Aberfeldy)</p> <p>Registration Status BASIC LICENSE (Subscription expires: 2019-02-18 12:28:16)</p> <p>Kernel Version 4.4.114-1.el6.x86_64</p> <p>SPL Version spl-0.7.6-1.el6.x86_64</p> <p>ZFS Version zfs-0.7.6-1.el6.x86_64</p> <p>IP Address 192.168.220.132</p> <p>DNS Servers 192.168.220.2</p> <p>Current Date and Time Sun Feb 18 12:35:22 AEDT 2018</p> <p>Uptime 0 days 2 hour(s) 14 minutes</p> <p>Load Average 0.00 0.00 0.00</p>	<p>Total Processors 1</p> <p>Model Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz</p> <p>CPU Speed 2.59 GHz</p> <p>Cache Size 4096 KB</p> <p>System Bogomips 5188.09</p> <p>System Memory 2003.15 MB</p> <p>Free Memory 1541.25 MB</p> <p>System UUID 564DDC64-74A4-4FAC-C4E2-A47E11FC56F6</p>

Upgrading or Renewing your MyNAS® Storage Appliance License

If you wish to upgrade or renew your MyNAS Storage Appliance License, click on the applicable license text to view the license upgrade wizard:

MyNAS WebUI x

Secure | https://192.168.220.132/webui/

Home Configure Services Contact Us About Logout

MyNAS Storage Appliance License Upgrade

Current Subscription Level: Basic License
Current Subscription Expiry: Monday 18th February 2019 12:28:16

MyNAS Storage Appliance provides the following subscription upgrade options from your current license. The license upgrade below is valid until the original subscription expiry date above.

Select the most applicable subscription option for your MyNAS Storage Appliance:

License Type	Functionality	Cost
<input checked="" type="radio"/> Basic License + Cloud Replication	<ul style="list-style-type: none">All Basic FunctionalityCloud Replication support to the following Cloud Storage Providers:<ul style="list-style-type: none">Amazon S3Backblaze B2Google Cloud StorageGoogle DriveDropboxownCloud Service ProvidersPerform data share backups to an external system	\$25 AUD
<input type="radio"/> Basic License + Virtualisation	<ul style="list-style-type: none">All Basic FunctionalityVirtualisation support	\$25 AUD
<input type="radio"/> Full License	<ul style="list-style-type: none">All Basic FunctionalityCloud Replication supportVirtualisation support	\$40 AUD

Next

Copyright© MyNAS® 2013 - 2018

Follow the steps through the PayPal website to upgrade your license. Once your transaction is complete, MyNAS Storage Appliance will upgrade your license within 24 hours.

Once you receive notification that your license has been upgraded, log into your MyNAS Storage Appliance console to see the new license registration state:

MyNAS Storage Appliance Status Dashboard

System Information

Hostname	mynas-doc-test
Version	MyNAS Release 2.0 (Aberfeldy)
Registration Status	FULL LICENSE (Subscription expires: 2019-02-18 13:34:05)
Kernel Version	4.4.114-1.el6.x86_64
SPL Version	spl-0.7.6-1.el6.x86_64
ZFS Version	zfs-0.7.6-1.el6.x86_64
IP Address	192.168.220.132
DNS Servers	192.168.220.2
Current Date and Time	Sun Feb 18 13:37:04 AEDT 2018
Uptime	0 days 0 hour(s) 5 minutes
Load Average	0.04 0.47 0.30

Hardware Information

Total Processors	1
Model	Intel(R) Core(TM) i7-5600U CPU @ 2.60GHz
CPU Speed	2.59 GHz
Cache Size	4096 KB
System Bogomips	5188.09
System Memory	2003.15 MB
Free Memory	1569.95 MB
System UUID	564DDC64-74A4-4FAC-C4E2-A47E11FC56F6

Appendix A - Network Ports used for MyNAS® Storage Appliance

The tables below details all network ports utilised when various MyNAS services are enabled

Incoming Connections

Source	Destination	Protocol / Port	Description
Your local network	MyNAS Storage Appliance	TCP 22	SSH Access *
Your local network	MyNAS Storage Appliance	TCP 80 TCP 443	MyNAS WebUI Console Access
Your local network	MyNAS Storage Appliance	TCP 139 TCP 445	Microsoft Windows Networking Access #
Your local network	MyNAS Storage Appliance	TCP 548	Apple OSX Networking Access #
Your local network	MyNAS Storage Appliance	TCP 111 TCP 2049 Random TCP High Ports	Linux / Unix NFS Networking Access #
Your local network	MyNAS Storage Appliance	TCP 8200	Mini DLNA Server Access *
Your local network	MyNAS Storage Appliance	TCP 3260	iSCSI Target Access *
Your local network	MyNAS Storage Appliance	TCP 3128	Squid Proxy Server Access *
Your local network	MyNAS Storage Appliance	TCP 3306	Kodi Central Database Access *

Only if Data Share access is configured

* Only if service is configured

Outgoing Connections

Source	Destination	Protocol / Port	Description
MyNAS Storage Appliance	MyNAS License Server	TCP 443	MyNAS License Validation
MyNAS Storage Appliance	MyNAS Updates Server	TCP 443	MyNAS Updates for valid subscribers
MyNAS Storage Appliance	MyNAS Web Server	TCP 80	MyNAS Web Server
MyNAS Storage Appliance	Local or Remote DNS Server	UDP 53 TCP 53	MyNAS Storage Appliance to query DNS Server for server name resolution
MyNAS Storage Appliance	Local or Remote Email Server	TCP 25 TCP 465	MyNAS Storage Appliance to send notification emails regarding system events
MyNAS Storage Appliance	Cloud Storage Providers	TCP 443	MyNAS Storage Appliance to access and sync with remote cloud storage providers *

* Only if cloud replication is configured