Numbershark 5 Windows CLIENT-BASED
Network Installation Instructions
Revision Date: 05 Sept 2014

This document is written for Numbershark 5 Network, however if you are also installing Wordshark 5 Network, please note that both products are installed in the same way.

If you have previously installed earlier releases of Numbershark or Wordshark, NOTE that Installation methods changed significantly from v4. You will need to read these instructions.

This product is not suitable for use on Apple Mac networks.

You have chosen the instructions that will install the program onto your clients. There are separate instructions for a "Server-based Install" (which are appropriate for faster networks).

Contents

Note for technicians carrying out reinstalls: If you have a printed or previously downloaded copy of these instructions and are reinstalling, these instructions may be out of date. There may be updated MSIs. Your network configuration may have changed so that a different install method may better meet your needs. Visit our site to check before proceeding:

www.wordshark.co.uk/NS5N

CLIENT-BASED NETWORK INSTALLATION INSTRUCTIONS

If upgrading from an earlier release of Numbershark, read APPENDIX I: Upgrading Instructions before proceeding, to avoid possible data loss.

Installing a network version of Numbershark is the process of installing the service, manager, data folder and program and ensuring they all communicate with each other. These instructions explain how to do this. In standard Windows networks the installation process is straight-forward, but networks do vary in configuration, locally-determined security and other policies,

An installation of a network version of Numbershark is built in **four** stages (pages 3-5 below)
- Stage 1: You will run the C-Server MSI to create a folder *numbershark-shared* which holds student work, records, licence details and data required for the program to run. This is located on your server in a network-accessible shared folder.
- Stage 2: You will install a *manager* program which enables network managers to work with a linked *service* which manages licence activation and some diagnostics. You will use this to activate the licence.
  - o The *manager* requires elevated privileges to run as it writes to the registry.
  - o The *service* must be running in order for Numbershark to run correctly.
  - o All White Space network products (Numbershark & Wordshark release 4.10 and 5.xxx.xx) are managed by a single instance of the *service* and *manager*.
  - o The *service* and *manager* may be located on different servers, but they need to communicate with each other. To reduce issues (e.g. internal firewalls) we advise they are co-located on the same server as *numbershark-shared*.
- Stage 3: You will deploy the program folders *numbershark-programs* and *numbershark-public.* You have chosen the instructions that will require you to deploy these to each client computer. (There are separate instructions for a "Server-based Install")
- Stage 4: You will set up initial staff and tech user accounts and test the installation.

Detailed system requirements are at Appendix G. Note particularly:
- Your server that hosts *numbershark-shared* and the *service* must have .NET Framework 3.5 enabled. Supporting notes
- If you are NOT using Active Directory you will need to check regularly that the server and all clients are on the same time and time-zone (our program can cope with a variation of a few minutes only).

Your network licence is for "Concurrent Users" NOT "number of clients", so allows you to install the program to **every** client computer on your network at a single site. Our program activation system ensures that you do not have to consider using licence compliance software. Licence FAQs are included at Appendix B.

If you have wired client machines that will use the program "rarely" and you wish to minimise the number of Client-based installs, it may be useful to consider a "Server-based Install" for these clients, once you have followed these instructions to carry out your "Client-based Install" on the more heavily used or wireless clients. This is covered in "Special Situations" at Appendix C

If you experience any difficulties, most issues encountered are covered in Appendix A: Trouble-shooting. You may also contact support, but please first obtain supporting information to help us.

STAGE 1: Creating the User Data Folder (*numbershark-shared*)

1. Log on to the **server** as a domain (network) administrator.
2. We advise that you move your downloaded MSI files to the SERVER which will host your program data folder. Remoting to the server whilst retaining the downloaded MSIs on a client machine can create incorrect registry entries and is a common reason for failure, as it is so easy to accidentally install elements onto the local machine.
3. Unzip the downloaded MSI files.
4. Launch "*Numbershark 5 Network C-Server XXXXXX.msi*". NOTE: The .msi extension might not show on all systems. NOTE that this MUST be run/installed on the server on which you intend to run the SERVICE . For this reason, it is easier to have both on the same server.
5. You may be prompted with a security check before the MSI launches. Click "OK" or "Run".
6. Follow the on-screen instructions and accept the Licence Agreement.
7. **Note that issues can arise when installing using mapped drives. To ensure a successful deployment please use UNC paths throughout the remaining points.**
8. **Create the user data folder:** After you accept the Licence Agreement, the installer will ask where it is to create the Numbershark user data folder (*numbershark-shared*). This location must be accessible to all users of the program. If you have an application data share or location where you install your network application's data you can use this folder. Alternatively, if you wish to put the "*numbershark-shared*" folder into a subfolder, e.g. *White Space Ltd*, you will need to create this parent manually first, before specifying the location. The folder path needs to be as it is seen by client machines so will normally be a UNC format network share. Browse via the network node or via a mapped drive to the PARENT folder where you want the *numbershark-shared* folder to be created; *e.g. to create "\\SchoolServer1\Apps\numbershark-shared" select the "\\SchoolServer1\Apps" folder.*
9. **Share the user data folder.** If unsure about sharing and hidden folders, please refer to Appendix H. A minimum of **read/write/modify/delete file permissions** (on the "security" tab) for **all users** is required for the *numbershark-shared* folder. NOTE: Where "**all users**" is shown, this may be read as **"Appropriate security groups of users".**
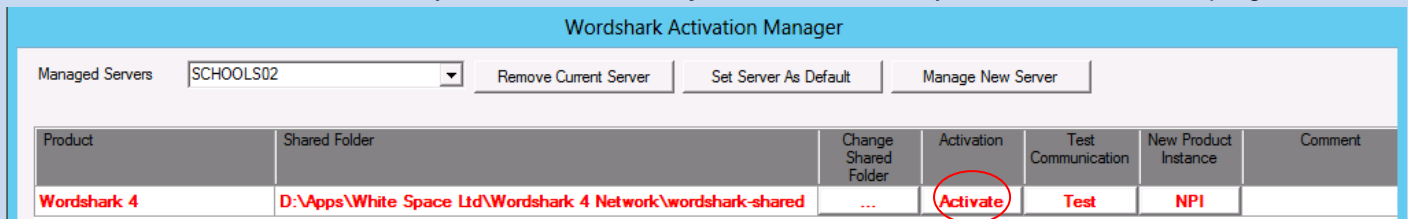
STAGE 2: Setting up the *manager* and *service* and Activation

10. **Install the *manager* and *service***, unless they have already been installed for use with an existing White Space Network product (in which case skip to activation). To install, launch "*setup network management XXXX.exe*".

> If you are installing multiple instances of the same White Space network product (e.g. on a county or region network), and already running at least one instance of the product you are currently installing, do **not** run the server MSIs to install additional licences. **Instead**, see Appendix K, and use the "New Product Instance" (NPI) facility provided in the White Space Network Manager.

11. By default the *manager* and *service* are installed to the "*Program Files*" folder on the server. If you wish to install to an alternative location click the "Change" and select a new location. NOTE: Both the *manager* and the *service* **must** be installed. The *service* **must** be installed onto the server hosting *numbershark-shared*. Whilst the *manager* may be installed onto a different computer which has access to the server, it is simpler to install both to the same server.
    a. The accounts the *manager* and *service* run under need appropriate permissions on the shared data folder *numbershark-shared* on the server used to store student and other data.
    b. Mid-install you will be requested to enter the Log-On details for the *service*. On this screen, enter an account that has permissions to start the *service*, write to *numbershark-shared* and to the Registry:
        i. **64 bit servers:** HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\White Space Ltd
        ii. **32 bit servers:** HKEY_LOCAL_MACHINE\SOFTWARE\White Space Ltd
    c. In general the default "Local System Account" will work. However, if you then find that the *service* and *manager* fail to start, uninstall and reinstall entering a username and password with the required level of permissions. You may wish to set up an account specifically to run the *service* with only the minimum required privileges and excluded from any password expiration group policies.
    d. If you enter a username and password, check whether the password has been set to expire. The *service* will stop functioning if the password expires, and our programs will then malfunction. To avoid this, if your network security policy requires expiry, note to change the *service* Log On Credentials to the new password at the appropriate time (To do so, open the *service* from within

Task Manager / Open Services / Right-click the White Space Network Service / Properties / Log On, enter the new password).

e. To start the *service* at any time, this is most easily started from Task Manager / Services / right – click on "White Space Network Service".

f. To open the *manager,* it is usually most convenient to go to the hidden icons tray in the task bar, right-click on the *manager* icon and click "SHOW".

g. If the *manager* icon is not showing in the hidden icons tray you will need to open via the start menu.

12. Subsequent installs of other White Space products v4.10 or later, will use the same *manager* and *service,* though it is worth checking and updating to the latest *manager* and *service* if installing at a later date.

13. The installer will by default use network port 9001 for the *service* to communicate with the *manager*. If this port is already in use or your network infrastructure requires you to use another port, specify this on the Network Port page of the installer. If you are unsure which port to use click "Next" to accept port 9001. You may change this port or proxy details subsequently via the "Service Details" and "Proxy" tabs of the *manager*. If either tab is absent, update your *manager* to the latest version (Appendix L)

14. You may be prompted with a security check before the file launches. Click "OK" or "Run". The installer will install the *manager* and *service* and add various entries to *numbershark-shared.* This may take several minutes.

15. Once the *service* is installed you need to **activate your licence** before you are able to run the program.

	Wordshark Activation Manager						
Managed Servers	SCHOOLS02	Remove Current Server	Set Server As Default	Manage New Server			
Product	Shared Folder			Change Shared Folder	Activation	Test Communication	New Product Instance	Comment
Wordshark 4	D:\Apps\White Space Ltd\Wordshark 4 Network\wordshark-shared			...	Activate	Test	NPI	

1. Log on to the computer hosting the *manager* (usually the server) as a domain (network) administrator.
2. Launch the "*White Space Network Manager*" from the start menu.
3. The *manager* will list the White Space network product(s) and each associated shared folder on the server*.*
4. Click "Activate" for the product you wish to licence.
5. Follow the on-screen instructions to activate the software.

The *manager* requires access to the internet for activation and deactivation. If this is not available, off-line activation and deactivation is offered as an option, though this is slower and less convenient.

> In all cases, after activating, DO NOT move your *numbershark-shared* folder: If you do the product will need reactivating.

STAGE 3: Deploying the program files to each client machine:

Install the Numbershark program onto each client you wish it to run on:

a. EITHER follow Appendix J: "Silent and Automated Installs"

b. OR log on to each client in turn as an administrator and carry out the steps i - v below. You may wish to copy the installer files to several flash drives to speed up the process.

   i. On each client machine, run the "*Numbershark 5 Network C-Client XXXXXX.msi*", from your download client-based install folder.

   ii. You may be prompted with a security check before the MSI file launches. Click "OK" or "Run" and follow the onscreen instructions.

   iii. When you are asked for the location of the "*numbershark-shared*" folder click the "Browse" button and either browse or specify the location of the folder on your server and click "OK". Follow the on-screen instructions as the installation proceeds.

   iv. Permissions required are **Read** for **All Users** for *numbershark-public,* and **Read and Execute** for **All Users** for *numbershark-programs.* Note: the *numbershark-public* folder contains sounds, images text and other program data. The *numbershark-programs* folder contains the executable and the in-built version of Java used for running. This runs independently of any version of Java (if any) present on the client machine.

   v. The installer will place a shortcut on the "*All Users*" desktop of the client. If your network policies prevent the desktop shortcut from being created, this can be created manually using the instructions in Appendix F. Note: The executable *Numbershark5nrun.exe* (within *numbershark-programs*), MUST run via a shortcut (e.g. desktop icon), within which the "*Start in*" address on the shortcut's properties must be the path to *numbershark-shared.* The program WILL NOT launch correctly if run directly from *Numbershark5nrun.exe.*

STAGE 4: INITIAL SETUP, TESTING & BACKUP

1. On a client machine, double-click on the desktop icon (or program group entry) to launch the program.
2. At the initial sign-on screen, type your name (e.g. "Network Admin" or "Technician") in the box provided. On first run you will be asked if you wish to become the program administrator. We strongly recommend you say yes (you will add one or more school staff on as administrators below, at step 9). You will be asked to set a password. Note this in your installation documentation. If other users lose their own Numbershark passwords you can sign on and change their password via the Admin menu and Add and Manage Students and Staff, then select the Administrator or Teacher and click the "Change" button.
4. Check by playing a game that the program appears to be running well.
5. Ensure that the folder *numbershark-shared* has been added to your network schedule for regular back-ups.
6. Record the locations of the Numbershark folders in your network notes.
7. Exit the program. Navigate to the server folder *numbershark-shared.* You should see the folder now contains files including options.sha, keypad.sha, and admin lists. Check this now contains [name].sha (where [name] is the user ID you have created). If this is missing, check network permissions again and retest. IMPORTANT NOTE: *This folder also contains various diagnostics folders and licencing data. If the numbershark-shared folder or any of the diagnostics folders are deleted or moved, the program is likely to malfunction. Please contact us beforehand if a move proves necessary for any reason.*

> **Upgraders only:** At this stage, if wishing to use cleaned and restored user data files from previous installs, copy and paste your user files into *numbershark-shared.* Reopen the program and check a sample of users are able to open and use the program.

9. **Log onto the computer as a restricted user** thus testing permissions for staff/students. Reopen the program. Sign in using your new Numbershark admin user ID. Go to the Admin menu and Add and manage students & staff. In the left hand column, click on the "Administrator" icon and set up a further administrator. Add further program administrators and teachers as required by the education staff team. Note that any administrator can subsequently reset passwords/user names for other administrators, teachers and students. For greater security, we therefore advise that most staff users of Numbershark are registered as teachers (as explained in the main program manual). As you enter staff user names and passwords, note these to inform staff later.
10. **Numbershark users each need a unique user ID, ideally their unique network login name, if recognisable.** Any combinations of up to 30 letters, numbers and spaces are allowed. The following characters are NOT allowed: **/ ? * : | < > \ "**
11. Consider bulk import of student names, disallowing of temporary students and automatic active directory logging on using username: Read http://www.wordsharksupport.co.uk/logging_on.html.
12. On the same screen, go to the left column and click the blue "new student" icon. Add a new "test" student (or actual students) to test users are being set up and saved.
13. Exit from the Admin screen. Go to File, sign off from your admin ID, sign on as a test student and check that the program appears to be working.
14. Exit the program. Check that the newly created administrators/teachers/students have been added into *numbershark-shared* as additional .sha files.
15. Advise the education staff what their passwords are (9. above), and advise that the program is now ready for their use. Suggest on first use they watch the videos ("Help / Video Tutorials" menu), and also change their password (if wished) under the green menu item "Settings for [username]"/Password change. New in Release 5 is the ability to automatically register/create new users if desired. This can save significant amounts of administrative time. This is documented in the Teacher's Manual, and found within the program within the Admin /Universal Settings/Sign-On Settings. If your network Active Directory provides a recognisable unique ID for each student, e.g. "Fred Smith45" rather than "RF4254", please bring this feature to the attention of staff.

Updating:

During the lifetime of this version, program updates will be issued periodically to further improve the program, and repair issues reported to us. If any "program related" issues are reported to you, please email us: We will tell you if the issue has already been subject to an update, or alert you when an update is available. You may check for program updates as the Program Administrator (NOT as a Teacher or Student user) from within the program under the menu Help / Check for Updates.

During the lifetime of this version, updates to the *service* and/or *manager* may be issued. See Appendix L.

APPENDICES

Appendix A: Trouble-shooting

This appendix covers the majority of issues involving network installation and subsequent running that are reported to us, and how to obtain support. This appendix comprises:

Service, Manager & Activation Issues:
Error Codes (numbered)
Other Issues
How to obtain support

Service, Manager & Activation Issues:

1. **The *service* and *manager* fail to install or run, perhaps with "Error 1920 Failed to start White Space service" or "Unhandled Exception:** This can be for several reasons, and the server Event Viewer often helps to trace the cause.
    i. **You were not signed on with Domain Manager Admin Rights.** In almost all cases you need such rights to enable the *service* to install/run/make the necessary registry changes and install programs onto the server.
    ii. **The program may start to install, but then fail and roll back.** This only occurs with the older releases of the installer. If the install of the *manager* fails and rolls back, possibly with a "timeout waiting for Service" or similar displayed in the Event Viewer, Either
        1. **Update your *manager* and *service*: See Appendix L**
        2. If updating is not possible immediately, then reinstall using your existing MSI, but mid install ensure you add your username/password to the screen where you previously chose "Log in as Local Admin". If this fails, then first open the "Services" on the host server, and re-run the *manager* MSI: This time, as soon as the service "White Space Network Management" opens, click on its properties, and ensure you enter the correct login credentials including username/password for Local Admin (Domain Manager).
    iii. **.NET Framework 3.5 is not installed**: This is used by the Manager. Note that the presence of later .NET frameworks, e.g. 4.0 or 4.5 is not a problem, but these do not contain the correct coding and will not work. See the "Required Specification for Server". If you are on Server 2008R2 in particular, .NET 3.5 is pre-installed but may need to be enabled. If you attempt to download and install, you may see an error "**You must use the Role Management Tool**" Instead of installing, enable the already-installed .NET Framework 3.5:
        1. Ensure you have admin rights (and disable UAC which can give issues)
        2. On the server: Start / Administrative Tools/Server/Manager/ Manage Roles & Features. Manage/Add Roles & Features/Features
        3. Check checkbox for .NET Framework 3.5.1
        4. Click button "Add Required Role Services"
        5. NEXT to install. Accept defaults with further NEXT. Verify that the .NET Extensibility check box is selected by default, and click Next
        6. Wait for install to complete and click to close.
        7. Try reinstalling the *service* and *manager* again.
        8. If you have deactivated UAC, remember to turn it back on to avoid falling foul of local security requirements!
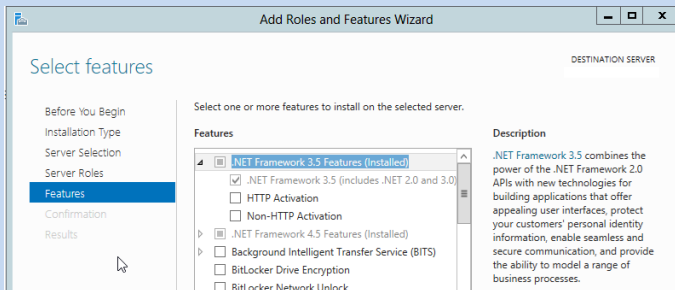
iv. **The account under which the Service runs has inadequate permissions, or suffers a logon failure:** The *service* installs first, then the *service* is started, and finally the *manager* is installed. If the *service* installs but fails to start, the *manager* will not run properly. It will produce a message: **Error: Cannot fill the server list box.** This usually refers to being unable to connect to a net .tcp address. There will usually be a "timeout waiting for Service" error in the Applications Event Log when the *service* attempted to start. It is usually followed by "Unhandled exception".
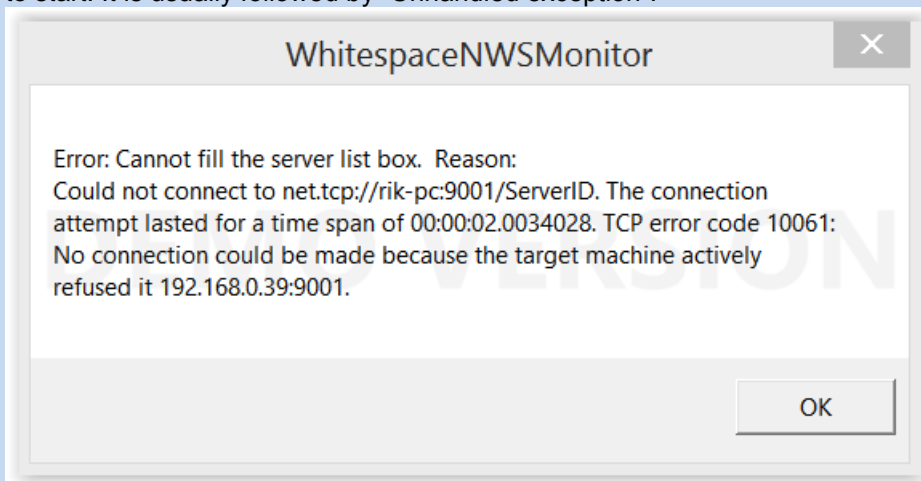
A similar message occurs when trying to start the *manager* if the *service* is not running or is awaiting a restart. Press "Quit", and restart the *service* (listed under "Services" tab as White Space Network Service") from within Task Manager. Restart the *manager*, which should now open correctly.

If it does not, then the usual cause of this problem is that the account under which the *service* is running has insufficient privileges to make necessary file or registry changes, or the username/password combination provided to the *service* is incorrect. In many cases the default "Local Admin" account will work, but otherwise choose an account with sufficient privileges to change files and registry entries. You may need to set up a special account. To change the account details under which the *service* runs you may either:

- Reinstall, but mid-install ensure you add an appropriate username/password to the screen where you previously chose "Log in as Local Admin"
- Change the username/password in the services applet, looking at the properties of the *service* from the services applet. This is most easily reached by typing SERVICES into the Windows search box (or start screen in Windows 2012).

2. **The numbershark-shared folder cannot be found**:
   i. This may be due to incorrect sharing/permissions/security/path to the server numbershark-shared folder: Check sharing, permissions and in particular hidden sharing. See the main instructions Stage 1 and note that a $ in the path is not permitted.
   ii. Check the permissions listed in Appendix H. If the *service* is unable to access/write to this folder, it may shut down. If the *manager* is unable to find the *service* it may close. The server Event Viewer may flag up missing or invalid paths/folders. Note that these need UNC paths, even if "Installer" messages appear to allow paths such as d:\White Space……..\etc.
   iii. **Check the registry entry for the numbershark-shared folder:** Using RegEdit, check the correct registry entry is in registry. On the server hosting the *service* and *manager* check that the relevant product is listed: HKEY_LOCAL_MACHINE\SOFTWARE\[Wow6432Node if a 64 bit machine]\White Space Ltd\Networks\Numbershark 5 should contain:
      1. (**Default**) (value not set)
      2. **Code** Should be NC for Numbershark 5.
      3. **EPN** Should be a set of alphanumerics: Contact Support if this is empty.
      4. **SharePath** Requires a UNC path, finishing \numbershark-shared. NOTE that if it finishes \numbershark-shared\ then try removing the final \ as this has been the issue in a small number of cases.
      5. Restart the *manager*, and within the *manager* click on the "Files and Folders" tab to "Save and Restart Service" to allow both to repoint to the correct location of the user data folder *numbershark-shared.*
3. **The SERVICE** fails for any reason:
   i. Restart the *service*. To restart, open the *manager* and click the "Start" button on the "Service Details" tab.
   ii. We advise you monitor this. If it fails again for no apparent reason please contact us *without* restarting the *service*, so we can better diagnose the reason.
4. **Activation Fails:** This is normally due to proxy settings preventing access. Ensure you are using the latest *manager*, select the "Proxy" tab, and fill in the proxy server username and password.

5. **Network Port 9001 not available for the program to use OR you realise your Proxy name, username or password are incorrect:**

   i. Open the *manager* program. On the Service Details tab, change the Service Port to an unused number. Ports above 9000 are rarely used, so most are usually available.
   ii. Open the *manager* program. On the Proxy tab, correct the account details.

   As with any change, restart the *service* and *manager* using the "Start" button shown below and the "Restart Manager" button.
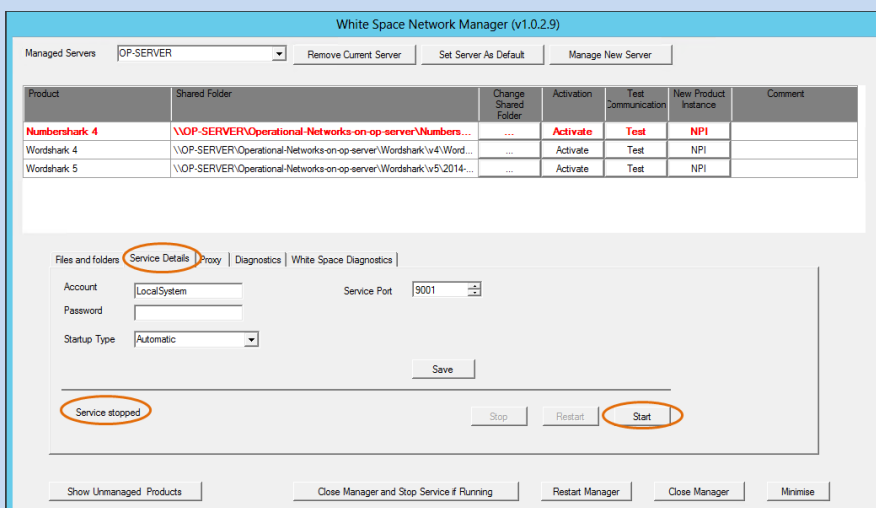
Error Codes:

6. **Error Code 9:** Most commonly results from a desktop icon whose Properties/ "Start in" address does not point to the server *numbershark-shared* folder. Correct this, restart the *service* and *manager*. Attempt to run the program again.
7. **Error Code 10:** results from incorrectly set permissions. Check Appendix H. Note that Impero, Ranger, or standard Windows networks using MS File Screen Manager may also experience this during OR AFTER install, if the path to *White Space Ltd* has not been added to their Exemptions List.

   Exemption Lists: If your network restricts the executables that users may run, and depending on your network security, you may need to allow execute permission to *Numbershark5nrun.exe* (in the *numbershark-programs* folder) and *javaw.exe* (in the *numbershark-programs\bin folder*) before running.
8. **Error Code -34: (Error getxmldocument)** The file *D9SLD83.xml* in numbershark-shared is missing or is blank. This is usually because incorrect permissions have prevented it being written to. Check permissions are read/write/modify/delete for all groups of users. Run the C-Server (for a Client-based install) MSI again to recreate the XML file. If this still fails, contact Support
9. **Error Code 56:** The program is unable to see/read our files. This usually means that there is an issue with the sharing permissions of the mapped drive, or it has been hidden with a $ used inappropriately.
10. **Error Code 59:** This commonly happens if:
    a. You have not yet activated the program (using the "Activate" button on the *manager*)
    b. The folder *numbershark-shared* has been moved without similarly changing the path in the "Start-in" and in the *manager*. Correct this. Restart the *manager* and *service*, and attempt to ACTIVATE the program using the "Activate" button on the appropriate software product.
11. **Error Code 66:** Check, if NOT on Active Directory, that the server and clients are set to the same time zone and time (within 5 minutes).
12. **Error Code 69:** The licence was unable to be validated. Check that the *White Space Ltd* folder, *numbershark-programs* and *numbershark-public* have "read" permissions. Most other reasons for this issue were identified and are self-repaired in *manager* 1.0.2.8 and later. If you have an earlier release of the *manager* please update.
13. **Error Code 70:** The licence has not yet been activated. As part of the install process, you need to install the *service* and *manager*, and activate the licence.
14. **Error Code 271:** Similar symptoms and actions to Error -34 above.
15. **Error Code 1309** occurs if you try to install onto a client from a remote server, so that the extracted files are in an inaccessible cache
16. **Error Code 1325:** This is normally solved by ensuring you use UNC paths (as recommended) instead of a mapped drive.
17. **Error Code 1603:** This occurs if the XML file used for silent deployment has paths in quotation marks. These are required for some servers and not for others.
18. **Error Code 2711:** This occurs if you attempt to install a *C-Client* to a client where one is already present on that client machine.

Other Issues

19. **Program Closes at Launch:** Numbershark requires a working sound card. Windows 7 and Windows 8 clients' soundcards are often disabled if speakers/headphones are not plugged in/switched on. Numbershark will attempt to display an error message if unable to access a working soundcard, but close after 10-20 seconds on the initial splash screen. See also www.wordsharksupport.co.uk/network-fizzle-after-splash-screen.html
20. **Slow loading:** If the program takes more than approx.15 seconds to load to the login screen, then this is often a symptom of a network overload and/or "Scan on demand" high level anti-virus settings. As you have carried out a *Client-based Install,* check anti-virus settings and faulty switches. See *"Special Situations"*
21. **Administrator or student details disappear**: You have not given the staff/students read/write/modify/delete access to the *numbershark-shared* folder, OR, if student details are not saved, check if you have a "sandbox" resetting machines, and see next point.

22. After signing onto the program users see a message about being "**Temporary Users**": Such users have access to all games / topics no data is stored for that user.
    a. Any Numbershark administrator can prevent students signing on as temporary users in the 'Sign-on Settings' of 'Universal Settings'.
    b. If no 'temporary' students are allowed AND students are registered to the program using Active Directory usernames AND 'Automatic sign-on' is chosen (also found in the 'Sign-on Settings' of 'Universal Settings'), issues with students mis-typing their names are minimised.
23. **Warning Messages to Users:** If the program detects an issue but is unable to self-repair, it will flag this message to Numbershark administrators and teachers, **and later to all users:**

<div align="center">

This program has encountered a problem.
Please contact your network manager in order
that the program continues to run.
Trouble shooting guide:
www.wordshark.co.uk/support/net500

</div>

If this message is reported to you, contact us with the items listed at the end of this document, so that we can start diagnosis and repair before the program malfunctions. Please do not restart the *service* (see next point, below) until we have replied. If the above message is not acted on promptly, the program may stop functioning, displaying a message:

<div align="center">

This Numbershark installation is no longer able to run.
Please contact your network manager.
Trouble shooting guide:
www.wordshark.co.uk/support/net500

</div>

24. **Lost Passwords**: If staff forget their passwords, sign onto the program and reset, using your user details you created at stage 4 of the installation process. Further guidance is given in the "Help" menu within the PDF "Printable manual", or visit www.wordsharksupport.co.uk and search for "Lost Password".

25. **Usernames with non-English characters:** If using an English keyboard the default for user names to be shown on the right of the sign on box must be left on. The user can then be selected from the list as the standard onscreen keypad does not include accents. Adding your own keypad does not work.
26. For any **other issues**, use the "search" facility at www.wordsharksupport.co.uk   and if unable to locate the solution please contact Support with the details listed on the next page.

How to Obtain Support, including information

If the trouble-shooting section has not helped you to solve your issue, please collect as many of the diagnostics listed below as you can, and provide these when contacting support.

Contacting Support:

Phone: 020 8748 1170   Outside the UK: (+44) 208 748 1170
Email: support@wordshark.co.uk   www.wordsharksupport.co.uk
**Skype**: (Not always available): wordshark.support

Opening hours: 9-5 UK weekdays. "Out of hours" calls 8am to midnight UK time may be arranged if needed.

TROUBLE-SHOOTING INFORMATION:

So that we are better able to respond helpfully, please be ready to provide these details / diagnostics:

1. Quote your Organisation/School and Location as per your licence details.
2. Include a phone / email / name for us to contact you.
3. Check you know which *manager* release you are using (shown on the top menu bar, or in Control Panel add/remove programs: Look for "White Space Network Management XXXX, where XXXX = version number)
4. Ensure you have screenshots / details of any error messages seen.
5. Check your server Event Log: Screenshots of suspect areas may help us to pinpoint the issue.
6. Tell us whether you are performing a *Client-based* or *Server-based* install.
7. Tell us whether the *manager*, *service* and *numbershark-shared* are all on the same server or otherwise
8. Tell us what server / client OS you have, and wired / wireless / both wired and wireless. Whether physical or virtual server/clients may also help.
9. If you can sign into Numbershark as an administrator, please:
   - Go to *Help / About* menu and quote the exact release, e.g. Numbershark 5.002.01-124. It is particularly helpful to include a screenshot (see example)
   - Go to the *Admin / Advanced Features / Create a zipped copy of the numbershark-shared* folder menu and choose the *'anonymously'* option to remove personal data. A zipped folder is created on your Desktop. Please email this to us, even if phoning.
10. Otherwise, find the *numbershark-shared* folder on the server. If any of the following are present within this folder, please zip them up and email them to us:
    - A "*Diagnostics*" folder
    - A "Config" folder
    - A "D9SLD83.xml" file

11. A screenshot of the server registry entries (for the server hosting the *numbershark-shared)* contained within *HKEY_LOCAL_MACHINE\SOFTWARE\[Wow6432Node if a 64 bit machine]\White Space Ltd\Networks\Numbershark 5*
12. If phoning us, please be ready leave your name and contact details and best times/means of contacting you, as we may be helping other customers. Tell us if you are a visiting technician with a specific visit timeframe. We can contact via email, Skype, landline and (UK only) mobile phone.
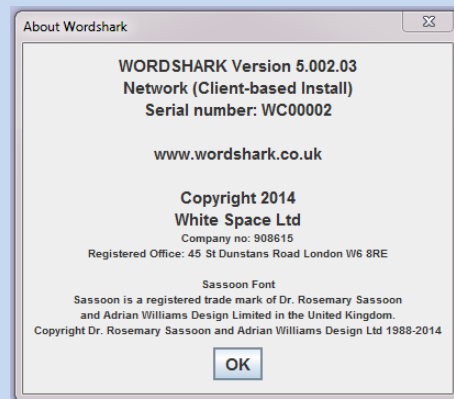
Appendix B: Licence & related FAQs

This page includes FAQs on licence expiry, load-balancing and home-access and repeats licence terms given on our website at time of purchase.

A Licence Certificate has been sent to your organisation. The code is needed whenever activating or reactivating your installation. Please contact sales@wordshark.co.uk before installing if any details are incorrect. After activation is complete, please store it in a secure location.

This network product and licence requires computers to be connected to a Windows Server network. Alternative formats of the program are available for use on standalone computers or computers that are used both on and off the school network. The Licence Certificate sets out the total number of licences owned by your organisation. This information is also displayed on-screen in the program.

The program may be deployed to every client on a single network served by a single data server for a single school. Each concurrent user at a given time uses one of the total licences. The program automatically counts the number of concurrent users, and limits access if this number is exceeded. Technicians may find useful the List of users menu, which shows every computer name and username(s) currently using the program. This is located in the "Users" menu.

FAQ 1:
"Can I move this licence to a new server?"   "Can I use this licence on several servers?"
"Do I have to remember to renew the licence each year?"   "Does the licence last for ever?"

Answer: If changing the server hosting the *numbershark*-shared folder, you **must first deactivate** the licence as it can **only** be registered on one server for one instance of the *numbershark-shared* folder at a time. The licence can then be reactivated. Failure to deactivate may result in loss of the licence.   Note that your licence does NOT require an annual renewal fee, and has no expiry date. However, we are not able to guarantee the ability to deactivate/reactivate licences beyond a period of five years from date of initial purchase (not from date of any subsequent purchase of additional licences).

FAQ 2:
 "Can children and staff access this Server-based program from their homes?"

Answer:
Home Access is permissible, though not explicitly mentioned on the licence sheet. If your organisation has home access to server-based software, e.g. via Terminal Services or Citrix, they are permitted within the terms of our network licence agreement to use this product remotely from home. Subject to bandwidth and latency, this can work well. We are, however, unable to support users accessing the software remotely.

FAQ 3:
"I want to carry out a Server-based install, and use several servers to run the program. Is this permitted?"

Answer:
Yes: Load-balancing is permissible under terms of the network licence, though not explicitly mentioned: Briefly, several servers may be used to run the program (e.g. to serve terminal services / thin clients), but only ONE instance of the user data folder *numbershark-shared* is permitted.   For details and instructions, see APPENDIX C, SPECIAL SITUATIONS.

Appendix C: Special Situations

This appendix includes:
SLOW LOADING / LOAD-BALANCING & JOINT DEPLOYMENT OF THE SERVER-BASED INSTALL and CLIENT-BASED INSTALL
MIGRATING FROM THE SERVER-BASED INSTALL and CLIENT-BASED INSTALL
*Use of SAMBA/LINUX Servers*

PROGRAM LOADS SLOWLY (OVER 15 SECONDS):

This is most commonly reported when a Server-based install has been carried out when a Client- based install was indicated. As you have carried out a Client-based install, slow running is unusual. Please check that the clients. server and infrastructure are up to the required specification, and an anti-virus "Scan on demand" or other background program is not causing an overload. Very occasionally, slow loading has been caused by a faulty switch firmware, or certain network cards,

If you have been brought in to investigate slow running on an existing install and you are unsure whether it is a Client-based install or Server-based install, note that within the program, you may readily view any client to find whether it has a "*Client*" or "*Server*" based install under the menu item Help / About.

Example (taken from Wordshark 5, a *Client-based* Install):

If on investigation you find you have a Server-based install, try moving one client machine from a Server-based install to a Client-based install. Because there will be registry entries involved, please follow this routine: a) Uninstall the S-Client from the client machines. b) Install the C-Client onto the client machines. MSIs for the Client-based install are available from: www.wordshark.co.uk/NS5N
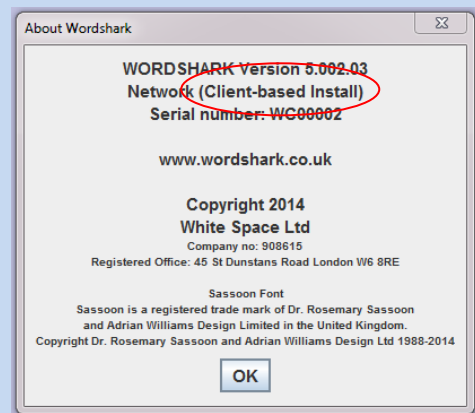
LOAD BALANCING

If you are able to carry out our recommended *Client-based install*, the load on the server handling the program data folder *numbershark-shared* is usually minimal, even for 100+ concurrent users, so load-balancing is rarely required. It is, however, permitted under the terms of our Licence Agreement: Details may be found within the Server-based Network Install Instructions, available from: www.wordshark.co.uk/NS5N

USE OF SAMBA/LINUX SERVERS

Our Network Products v4.10 and v5 require a Windows Server, capable of running Windows Services. Client computers must run Windows OS.

It is theoretically possible for the user data folder, *numbershark-shared* to be hosted on a SAMBA / LINUX server, acting as a file server, subject to this folder and its contents being allowed read /write / modify / delete permissions for all groups of users accessing the program. Contact Support for advice.

Appendix D: Adding Additional Concurrent User Licences

Sales can provide a new licence code if more concurrent user licences are needed. These are added via the "Manager" program, by a tech with rights to access this program.

For Sales and Other Queries, including upgrading and purchasing additional licences:

020 8748 5927   Outside the UK: (+44) 208 748 5927
sales@wordshark.co.uk   www.wordshark.co.uk

Appendix E: Peer to Peer Windows Networks

Essentially, this is possible. Follow these client-based instructions, but designate one client as a "server".

Background: Microsoft licencing, and its implications for our Network Licences
A "Peer to Peer (P2P) Network" is one in which your computers are joined (by Ethernet or Wireless), so that they can share files, printers and network-ready programs without the support of a Server. A peer-to-peer (P2P) network may be useful for smaller organisations with up to 10 Windows (XP Pro, Win7Pro, Win8Pro) computers and no server, though a conventional server-based network is recommended for best performance.
Microsoft licencing allows "home" operating systems to connect a small number of computers (<5). The "Pro" operating systems, e.g. Win7 Pro, Win 8 Pro, can connect a slightly larger number (<10). For larger networks you EITHER need to:
- purchase a Microsoft Windows server, in which case you no longer need these "Peer to Peer" instructions
- OR break your clients down into separate (<10 client) peer to peer networks. If you have done this, please contact us before starting, and ask for linked network licences: *e.g. a 30 user licence is for a SINGLE network: To use on 30 clients on 3 peer to peer networks, you would need to request 3 x 10 user licences, and use a separate network licence on each of the three networks. Data for each would be stored separately, so work set on one network would not be available on the others.*

Further information: http://support.microsoft.com/kb/328459

Overview:
- The *C-Server MSI* and *Management MSI* install the SERVICE, MANAGER and user data folder numbershark-*shared* on one Windows computer, acting as "Peer Server".
- A "Client-based" install of the program onto the other machines is completed by running the *C-Client MSI* on each client machine in turn.
- The program is then activated, and setup completed.

Installation:
Follow the 4 stage instructions at the beginning of this document. Where "Server" is mentioned, substitute a single Windows computer that can run the *service* and *manager* and host the *numbershark-shared.* Essentially, it will act as substitute for a server, so it needs to be a reasonably high specification machine which is not being used for any work whilst it serves the user data to the rest of the network. If you have a NAS, see notes below.
For initial activation, and for checking for updates (perhaps 6 monthly or annually), the "Server" client machine needs an internet connection. For normal running of the program over the P2P network, no internet is required, *except* that internet may be required to view the "Help" menu tutorial videos.
The "Server" client machine needs to have an area of disk created as a "Share", public to all other machines. Ensure that any internal firewall settings are adjusted to allow this, and permissions set appropriately.   You need to use UNC addresses, not mapped drives. The program C-Client install is large (500MB to 1GB). You may find it useful to copy the C-Client MSI onto 2-3 memory sticks to speed manual deployment to the client machines.

Daily Checks:
The P2P network needs to recreate, so far as it can, a "server-like" environment. For this reason:
- BEFORE the program is used on the other machines, the "Server" client machine MUST ALWAYS be switched on first, and a check made that the *service* is running. It is usually easiest to run the *manager* to check the *service* is running.
- If the program fails to launch, or returns an error code 66, check that every machine is set to the same international time zone, and all have the same date and time (within a few minutes).

Network Attached Storage:
Some P2P networks have a Network Attached Storage device (NAS) for documents and files. These vary hugely in quality, capacity, and in particular their ability to accept multiple requests for small files. Consider putting the user data folder numbershark-*shared* on the NAS, test to see whether the program freezes OR the NAS overheats when several computers are running our program. If either occurs, move the numbershark-*shared* to a Windows computer.

Appendix F: Creating and Deploying Shortcuts

During the install process the C-Client installer will place a shortcut onto the "*All Users*" desktop, which should be seen by users as they logon to the network. If your network environment does not allow the users to see the "*All Users*" desktop (for example a redirected desktop or managed as a part of a network management suite) you may need to copy the shortcut to the location where this shared desktop is kept, or create the shortcut manually.

Manually creating desktop shortcuts
1. Right click the "*Numbershark5nrun.exe*" in the "*numbershark-programs*" folder and select "Create Shortcut".
2. Right-click the shortcut and select "Properties".
3. Set the Start in as the path to the "*numbershark-shared*" folder on the server, NOT the default "*numbershark-programs*" folder, and click "OK".

Appendix G: System Requirements for Client-based install

Network:
- Internal clocks for the server and clients need to be synchronised to within 10 minutes. For this reason, Active Directory network deployment is preferred, though not required.
- The program runs well on interactive white-boards.
- This install method is able to run significantly better than the Server-based install if you have a relatively slower, older, or a wireless network (wireless "g "or better)

Clients:
- Windows 7 and Windows 8, 32/64-bit
- 2GHz minimum CPU, *Client-based* install requires 1.5Gb RAM
- Working soundcard & driver with speakers or headset connected
- Wordshark only: Microphone (required for some games and for creating recordings for own word lists)
- Display resolution: 1024 x 768 or better
- Windows 7 & Windows 8 touch screens are also supported. Larger touch-screens (11+ inches) generally provide a better experience than smaller screens.

Server:
- MS Windows Server 2003, 2008/R2 or 2012/R2. Contact us if considering a virtual 2012R2 server: Virtualisation normally works well, but some network cards are known to cause issues.
- 2GHz minimum CPU
- A *Client-based* install requires negligible RAM, for file-serving user files from the *numbershark-shared* folder.
- 5Gb free hard disk space
- Display resolution: 1024 x 768 or better
- .NET Framework 3.5 is mandatory on the server(s) hosting the *service* and *manager*. NOTE that .NET 4.0 and later is not adequate, as coding present in 3.5 is absent. Further notes about this
-

  Server 2012 users will need to install the .NET Framework 3.5 feature before starting installation. For more instructions on installing windows features please see http://technet.microsoft.com/en-us/library/hh831809.aspx

  Server 2003 and 2008 users may need to download and install .NET Framework 3.5 from the Microsoft download site https://www.microsoft.com/en-gb/download/default.aspx If this results in a message of "You must use the Role Management Tool to install or configure Microsoft .NET Framework 3.5." this means that 3.5 is already present and you just need to enable the Microsoft .NET 3.5 Framework from within the Features section of Server Manager. Further notes about this

Networks with non-Windows Servers or Clients:
- It is not possible to use the software on hybrid networks that include a mixture of Windows & Mac OSX clients UNLESS you deploy the program exclusively to Windows clients and Windows Server(s): If deployed to OSX clients, file-sharing violations and other issues will occur.
- The network product does not work with Linux server networks. However, provided the *service* and *manager* are hosted on a Windows Server, the program data folder *numbershark-shared* may be hosted on a SAMBA/LINUX server. See "Special Situations" for details.
- Please read Appendix E if you have a Windows Pro peer to peer network (no server).

Appendix H: Sharing and hiding Folders & Setting Permissions

The following permissions must be set on the folders. Where "**all users**" or "**Everyone"** is shown, this may be read as **"Appropriate security groups of users".**

Hiding the numbershark-shared folder:
If wishing to hide the folder, ensure the SHARE NAME is hidden with a $. Do not add a $ to the name of the folder, or include a $ in the path, or the deployment will fail.

Hidden paths e.g. \\server1\app$\WhiteSpaceLtd\Numbershark5\numbershark-shared containing a $ will normally fail if used within our shortcut addresses. Instead, share the folder *numbershark-shared*, allowing the shortcut path to NOT contain a $, e.g. \\server1\numbershark-shared

Sharing folders on Windows Server 2003
1. While logged on to the server as a domain (network) administrator, browse to the folder that you need to share. For *Client-based* installs this is just the "*numbershark-shared*" folder.
2. Right-click the folder and click "Properties".
3. On the "Sharing" tab click "Advanced sharing".
4. Check the "Share this folder" box.
5. Click "Permissions".
6. For the "Everyone" group click the "Allow" for "Full Control".
7. Click "OK" twice.
8. Make a note of the network path (UNC Path) from the sharing tab.
9. Click the "Security" tab to set the file permissions.
10. Click "Change" to assign permissions for your users as described in section D.
11. Click "OK" twice.

Sharing folders on Windows Server 2008 / 2008R2 / 2012 / 2012R2
1. While logged on to the server as a domain (network) administrator browse to the folder that you need to share. For *Client-based* installs it is just the "*numbershark-shared*" folder.
2. Right-click the folder and click "Properties".
3. On the "Sharing" tab click "Advanced sharing".
4. Check the "Share this folder" box.
5. Click "Permissions".
6. For the "Everyone" group check "Allow" for "Full Control".
7. Click "OK" twice.
8. Make a note of the network path (UNC path) from the sharing tab.
9. Click the "Security" tab to set file permissions.
10. Click the "Edit" button.
11. Assign permissions for the relevant groups of users as described in section C.
12. Click "OK" twice.

Inherited Permissions:

Please check for inherited permissions: These may over-ride other permissions you may set, leading to issues if they are too restrictive. Depending on your network configuration, you may need to specify a special permission to allow users to delete, if this is not already granted. If assigning special permissions, tick the check box to "apply these permissions to objects and/or containers".

Appendix I: Upgrading from Earlier Releases of Numbershark

**This document is applicable to anyone upgrading from v3 or v4 of Numbershark to v4.10 or v5.
CONTACT US if upgrading from v4.10 to v5 as different, simpler, instructions apply.**

If you are upgrading to this release from a previous v3 or v4 release, please check with education staff before starting, considering these points:

- Data from versions prior to v3 cannot be imported into Numbershark 5.
- Staff may have spent many hours creating their own courses, as well as setting work for students. They may or may not wish to continue with that work and not lose student work records.
- The organisation may have a mixture of previous releases, version 3 & version 4, and products including network, CD, USB and activated standalone. You may find it useful to look through your network and see just what is already installed. This may be obvious from desktop icons.
    - User files are stored in the folder *numbershark-shared.* For older versions of v3 they will be in a folder called *nshark-shared*.
    - For some single-user, and most network releases, the path to the user data folder is usually easily identified if you right-click the desktop icon, then left-click on "properties" and view the "Start-in" address.
    - If single-user products have been installed using the default installation the folder will be located on the client machines in one of the following locations:
        - C:\Documents and Settings\All users\Application data
        - C:\Program Files
        - C:\Program Files\Numbershark
        - C:\ Program Files\White Space Ltd\Numbershark
        - For 64 bit machines the path will be within "Program Files(x86)"
        - C:\ProgramData\White Space Ltd

Education staff have three central options. They may:

a) ***Decide not to retain the data*** from previous releases (on the server and/or some or all client machines) In this case:
    a. DELETE all folders/files for v3 or v4.01 to v4.08 networks, UNINSTALL v4.09 networks and delete the 4.09 residual folder *numbershark-shared* .
    b. UNINSTALL any unwanted standalone/CD based versions of the program and remove any residual folders, i.e. *numbershark-shared* or for older releases *nshark-shared.*   Paths of these have changed over time, and are listed below.
    c. Proceed as for a fresh first – ever install, from Stage 1 of these instructions.
b) ***Decide they need to retain data****.* If so, proceed as follows, using the "Network to network" or "Single User to network" instructions below as appropriate.
c) ***Decide they wish to continue using standalone/CD products BUT copy user data to the new network version.*** It is perfectly possible for more than one release / product type to be used on any given machine, though user data may only migrated forwards, though user confusion could result if using an old v3 CD alongside a new v5 network, for example. In such a case, do not delete or uninstall existing products, but proceed as follows, using the "Network to network" or "Single User to network" instructions below as appropriate.

Network to network:
Back up the folder containing your user files: User files are stored in the folder *numbershark-shared.* For early releases of v3 networks they will be in a folder called *nshark-shared*. The folder is usually located on the server, though for networks dated prior to January 2009 it was possible to install the network product as a standalone installation, and up to release 4.09 onto peer to peer networks. Instances of the *numbershark-shared* or *nshark-shared* user data folder may therefore be located on some or all client machines. It is not possible to retain duplicate user files so you will need to decide which usernames to keep if you find identical usernames in multiple user data folders.

If an administrator has created their own courses these will also be in the *numbershark-shared* or *nshark-shared* folder as '**extracourses**'. These must also be retained.

For network releases 3.03 or earlier any "own courses" will be saved in the *nshark-public* folder as '**publictopics2**', '**publictopics3**' etc. Depending on the installation method used this folder could again be on the server or on individual client machines. Retain these also.

 Uninstall the old network version. For v3.03 to 4.08, this is normally a case of deleting files: 4.09, having been installed via a MSI, must be uninstalled to remove registry entries.

Proceed to the sections below to   "*__Clean__* and *__Restore__ Data*".

Single user (CD or Stand Alone or USB) to network:

- The Stand-alone (single user activation) licence is normally for multiple machines. You may also need to DEACTIVATE these licences for subsequent use OR trade-in. Before uninstalling, sign on as program administrator, go to Admin / Advanced Features / Deactivate. Remove (or copy) the user data from the *numbershark-shared* folder.
- The CD licence allows the program to be installed onto multiple computers (even if the school has only a single CD), so data and installed files may be on several machines. Remove (or copy) the user data from the *numbershark-shared* or *nshark-shared* folder.
- The USB licence will contain data on the memory stick. Most Numbershark USBs have two partitions, so show as two drive letters. The data folder *numbershark-shared* is normally on the second of these.

In each case, you need to retrieve the data from every machine that had the older program installed on it. It is not possible to have duplicate user files so if the same usernames occur in more than one *numbershark-shared* folder, the school will need to decide which files to keep.

If an administrator has created their own courses these will also be in the numbershark-shared folder as 'extracourses'. These will also be needed, if present. For CD versions 3.00 to 3.03 any "own courses" will have been saved in the *nshark-public* folder as '**publictopics2**', '**publictopics3**' etc. It is not possible to have duplicate filenames so if identically named "own courses" have been created on more than one machine, the school will need to decide which files to keep.

On each machine, **Uninstall the old version** via control panel/Add & Remove Programs (from every machine) to remove the program and related registry entries, then manually remove the *numbershark-shared* (which is not removed via an uninstall). When backing up and uninstalling is complete on every machine, clean the data:

Clean the Data:
1. Make a copy of your backed-up data, and clean it ready for re-use by removing surplus files:
    a. Delete all **.LOCK** files
    b. Delete all **.sht** files
    c. Delete all **HS_ERR_PID** files.
    d. Delete the file **options.sha**
2. DO NOT delete any users who have now left or are otherwise no longer required: Because work given to students by an administrator who has been deleted cannot be removed, deletions must only be carried out after importing into the new network is completed.

Install the Numbershark 5 Program:
At this stage, install your Numbershark 5 Network following the instructions from stage 1 onwards, and return to complete this section after first run in stage 4.   NOTE that once Numbershark and the White Space Network Management software (the Manager and Service) have been installed and the program has been activated, on first launch you will be asked to enter a username. **Enter a username that is NOT included in your backed up user data** and click OK. Say 'yes' to becoming an administrator and give yourself a password. Close the program before restoring the data.

Restore and Test the Data:
1. At the flagged point in stage 4, copy your cleaned data (i.e. user files in the format *username.sha*) into your v5 *numbershark-shared* folder.
2. Add publictopics2 (etc. if several) into the new *numbershark-shared* folder NOT into the *numbershark-public* folder.
3. Run Numbershark 5 and test the restored files by signing on once more as the program administrator. Go to Admin / Advanced features / Check user files. This will check file integrity and advise you if any corrupted user files are reset to "new user".
4. Complete the normal testing as per the remaining points in stage 4

Appendix J: Automated and Silent Installs

Beyond provision of these notes, we are unable to advise on automated and silent installs, or support your network and/or software management tools. Refer to your software documentation or own support team for further advice.

Included with the C-Client MSI is support for silent and automated deployment: With this, the MSI can be deployed to workstations via Microsoft SCCM and Group Policy. Other 3rd party network management tools may also be used to deploy the software to your workstations.

Our *C-Client.msi* supports silent and automated deployment. You must reference the MSI deployment folder by its UNC address and not by using a mapped drive whichever deployment technology you are using. Our MSIs rely on "Network Discovery" being turned on.

The MSI is large (500MB to 1GB). As with automated deployments of any software, you are advised to assess the load this is likely to place on your network and consider whether a staged and/or "out of hours" deployment may be appropriate.

Before deploying, the MSI requires one parameter to be specified (DATABASEDIR) with an optional INSTALLDIR which if not specified will install to the default path.

Depending on your deployment technology, you may have either of these two methods of specifying the parameters required:
- a config_silent_c_cilent XML file (used if deploying with GPO or most 3rd party tools, but may also be used with scripting tools if more convenient).
- a command line switch (used if deploying with a scripting tool, batch file or PowerShell).

If you specify both a command line and the XML file, the command line will take precedence. We suggest you specify one or the other.

- INSTALLDIR (optional) refers to the install path of the program's data folders. If this does not exist, the installer will try to create the specified folders.
- DATABASEDIR (required) is the UNC path to the user data folder *numbershark-shared*) on the server. This must exist before running the install.

Using the XML Config File (config_silent_c_cilent.xml) to specify parameters:

- Create a shared folder on your server, perhaps "*Deployment".* For the deployment you only need the folder containing the *C-Client* MSI and its subfolders.

  To use the configuration file:
    - Edit the *config_silent_c-client.xml* file to set your install folder and shared folder locations following the instructions inside the file (Notepad works well for this). Examples of DATABASEDIR:
        - \\server name\school shared data\numbershark-shared (for most modern servers).
        - "\\server name\school shared data\numbershark-shared" (e.g. Server 2003 requiring quotes to cope with spaces).
        - The folder MUST be called: *numbershark-shared* or the install will fail.
    - Save the *config_silent_c-client.xml* into the "*Deployment"* folder, which also contains the *C-Client* MSI.
    - Deploy the MSI to target machines using your network management software or via a GPO/command line/batch file/PowerShell.

  The *C-Client* MSI can be run from a command line / batch file ensuring you have elevated privileges as domain administrator so that you can write to "All Users Desktop".

  You *may* need to create the directory for the MSI to install correctly: As an example:

  mkdir " C:\Program Files (x86)\White Space Ltd\Numbershark 5"

Examples for the **Numbershark 5 Network C-Client MSI**:

> msiexec /i "\\server1\Deploy\Numbershark 5 Network C-Client.msi"
> DATABASEDIR="\\server1\Software\White Space Ltd \Numbershark 5\numbershark-shared" /qn
>
> msiexec /i "Numbershark 5 Network C-Client.msi"
> DATABASEDIR="\\servername\schoolshareddata\numbershark-shared" /qn
>
> The two examples above install Numbershark's program files to the default directory in Program Files. However if you would prefer to install elsewhere please specify an INSTALLDIR parameter e.g.:
> > msiexec /i "Numbershark 5 Network C-Client.msi" INSTALLDIR="D:\Educational Software\Numbershark 5 Network" DATABASEDIR="\\servername\schoolshareddata\numbershark-shared" /qn

Deploying the Software:

Having specified the parameters using either of the above methods, the MSI can now be deployed to workstations via Microsoft SCCM and Group Policy. 3rd party network management tools or scripting tools such as batch files and PowerShell may also be used to deploy the software to your workstations.

Note: You must reference the MSI deployment folders on the server by their UNC addresses and not by using a mapped drive.

Troubleshooting Silent Deployment: *See also troubleshooting appendix for error codes*

- Ensure you are using the latest MSIs, (NOT the superseded ones on the original DVDs if you have these – the product was provided on DVDs for its first few months)
- Ensure you have network discovery turned on.
- Ensure you are logged on with elevated privileges.
- Ensure the MSI/Config files are in a shared folder, and the numbershark-shared folder is correctly shared, so that clients can see all required locations.
- Address paths to the MSI as UNC paths.
- Having edited the XML file, send the MSI out with a silent switch (/qn).
- Ensure there is read/write permission to the All Users desktop to create the shortcut icon OR create the icon to other appropriate locations:
  - The "Target" is the path and .exe file, so for a client-based install may be similar to: c:\program files (86)\White Space Ltd\Numbershark 5 C-Client\numbershark-programs\Numbershark5nrun.exe
  - The "Start-in" is the path to the user data folder on the server, *numbershark-shared*, e.g. \\server4\apps\White Space Ltd\Numbershark 5\numbershark-shared
  - NOTE that both must not have a $ in the path – see guidance on hidden shares.
  - NOTE that if you have Ranger, Impero, or are using Microsoft File Screen Manager, your paths may well need to be added as exemptions.

More Information:

For more information on using the command line to deploy an MSI please see the following Microsoft TechNet article http://technet.microsoft.com/en-us/library/cc759262%28v=ws.10%29.aspx

Appendix K: The Service and Manager: Adding Further Instances of Numbershark or Wordshark
(Network versions 4.10 or 5)

FAQ:

I have been asked to have a look at setting up Numbershark for a multiple school deployment. How do I run the "Numbershark 5 Network C-Server or S-Server" installer multiple times on the same server to create the multiple "numbershark-shared" folders as shown below so that they all appear in the White Space Network Manager?

This Appendix explains how to install multiple instances of the same White Space network product in a network. It is assumed that the network is already running at least one instance of Numbershark and/or Wordshark. It is also assumed that the licences required to activate the newly created Numbershark Networks have been purchased from White Space Ltd.
Do not run the server MSIs to install additional licences. **Instead**, use the "New Product Instance" (NPI) facility provided in the White Space Network Manager:
1) Create the user data folder *numbershark-shared*. This needs to be a UNC path, with no spaces: for example \\myserver\Data\WhiteSpaceProducts\St_Marys_School\numbershark-shared
2) Share the folder with share permissions of 'Full control' for 'Everyone'.
3) All users must have read, write and modify access to the *numbershark-shared* folder.
4) Open the White Space Network Manager and locate the same product with the same major release (version 4 or version 5) as the one you wish to add. Click the NPI button.
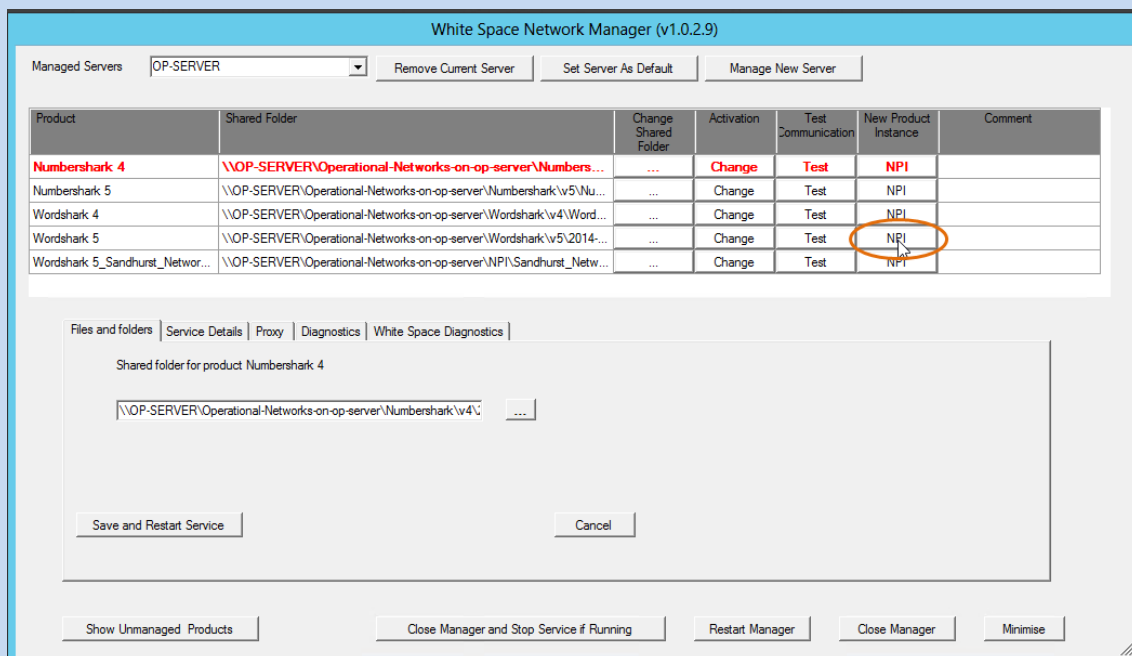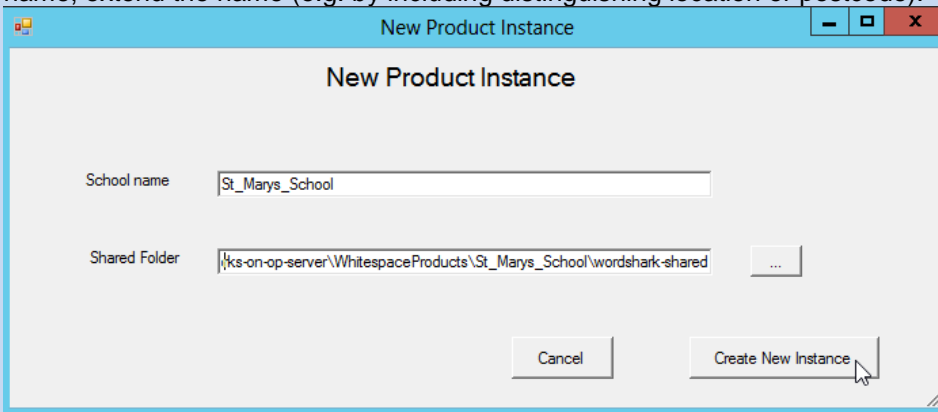

5) A warning message will be given. Click OK to continue.
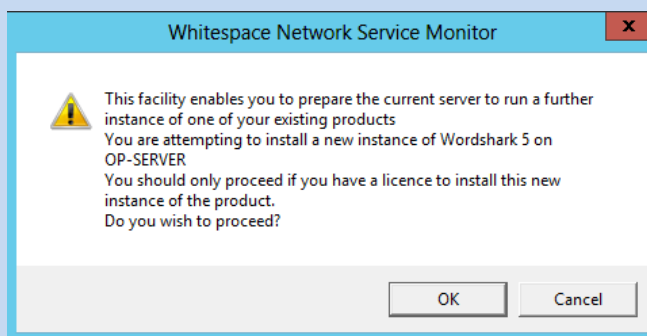
6) Fill in the school name and the UNC path to the *numbershark-shared* folder you created at step 1.

NB: The school name must be unique. If your service needs to manage more than one school with the same name, extend the name (e.g. by including distinguishing location or postcode).
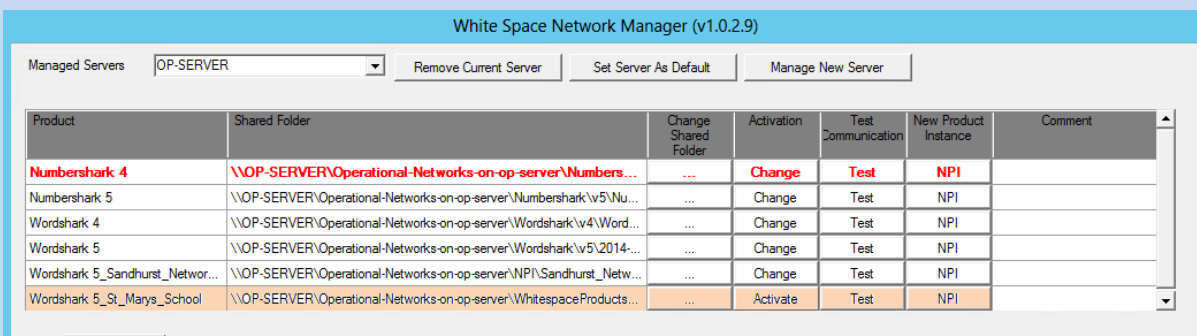

7) Click 'Create New Instance'. A confirmation will appear. Click OK.
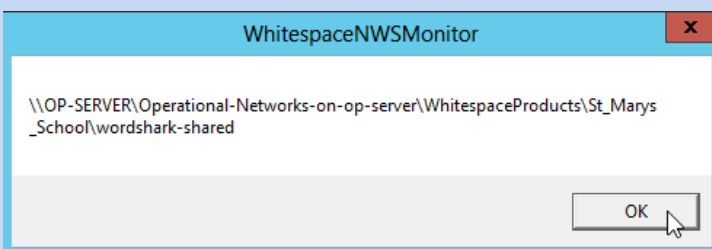
8) It may take a few seconds for the changes to be made. You will then be prompted to restart Manager. Click OK to close and reopen the Manager.
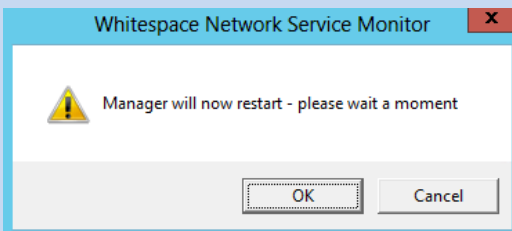
9) The new instance will now be registered in the White Space Network Manager.

10) Activate the program by clicking 'Activate' and entering the details as shown exactly on the Network Activation Licence. You may find it useful to add a note in the "Comment" field: You may edit any comment field in the manager using the "Edit" button just to the right of this field.

11) Once activated, install the program onto the client machines (see installation instructions stages 2-3).

If you have a large network and wish to use multiple servers please contact us for advice.

Appendix L: Updating the Service and Manager

The Service, with its Manager interface, handle various diagnostics and fault-finding tasks, and control the licencing for all instances of Numbershark and Wordshark networks (which may be several, if a server is shared between a cluster of schools).

The ability of both components to log, fault-find and offer more helpful support increases with each update, and we suggest that you download the latest Service and Manager at appropriate times.
The Control Panel/Programs & Features on the server displays the current version of the "White Space Network Management"(*service* and *manager*).

A link to the latest MSI, covering both components, is available to download from:
http://www.wordshark.co.uk/NAManagement

It is not necessary to uninstall the active Service and Manager: Run the latest MSI, which will (if required) prompt you to agree to close the existing Service and Manager as the new ones install.