

# **SWEEP for Windows NT Loader Service**

Loader Service

User Manual

December 1995

This manual documents the SWEEP for Windows NT Loader Service. For information on SWEEP for Windows NT, please refer to the SWEEP for Windows NT user manual.

Copyright © 1995 by Sophos Plc

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission in writing of the copyright owner.

Any name should be assumed to be a trademark unless stated otherwise.

*InterCheck* and *Sophos* are registered trademarks of Sophos Plc.

Sophos Plc • 21 The Quadrant • Abingdon • OX14 3YS • England

Tel 01235 559933 • Fax 01235 559935 • Email [enquiries@sophos.com](mailto:enquiries@sophos.com) • <http://www.sophos.com/>

9 8 7 6 5 4 3 2 1

Part # malwez0q/951219

This document is also available in electronic form from Sophos.

**Technical support hotline:**

**Email [technical@sophos.com](mailto:technical@sophos.com), Tel +44 1235 559933**

**Technical support (this product only):**

**Email [rjb@sophos.com](mailto:rjb@sophos.com), Tel +44 1235 544020**

# Contents

---

<b>About NTSweepLoader .....</b>	<b>5</b>
What is a Windows NT service? .....	5
What is SWEEP for Windows NT Loader Service? .....	5
Finding a virus .....	6
How to use this manual .....	6
<b>Installing NTSweepLoader .....</b>	<b>7</b>
System requirements .....	7
Installing NTSweepLoader .....	7
Registering the service .....	8
Removing the service .....	8
<b>Using NTSweepLoader .....</b>	<b>11</b>
NTSweepLoader usage .....	11
NTSweepLoader modes .....	12
Startup mode .....	12
Server mode .....	12
Background mode .....	12
Displaying the current NTSweepLoader settings .....	12
Changing the current NTSweepLoader settings .....	14
Starting NTSweepLoader service .....	14
Stopping NTSweepLoader service .....	15
<b>Configuring NTSweepLoader .....</b>	<b>17</b>
Command-line qualifiers .....	17
-? Help .....	17
-A=<Y N> Activate or deactivate mode .....	17
-C=<Y N> Create console window .....	18

-F=<filename> Location of SWEEP .....	18
-L=<0 1 2 3 4> Level of error logging .....	18
-O="<parameters>" Options for SWEEP .....	19
-P=<L N H R D> Priority of SWEEP mode .....	19
Configuring NTSweepLoader remotely .....	19
Sweeping network drives .....	20
Using a networked copy of NTSWEEP.EXE .....	22
Displaying output .....	22
Scheduling SWEEP runs .....	23
 Glossary .....	 25
 Index .....	 27

# About NTSweepLoader

---

This chapter describes the basic operation of the SWEEP for Windows NT Loader Service (NTSweepLoader).

## What is a Windows NT service?

A Windows NT service is a program that executes independently of users and can survive users logging on and off the system.

A service can also be configured to start as soon as the system boots-up. This is in contrast to the 'Startup' group of Program Manager which only executes programs when a user logs on.

## What is SWEEP for Windows NT Loader Service?

SWEEP for Windows NT is currently supplied as a console application. This means that it is normally executed from the Windows NT command prompt, produces only textual output, and will only run while a user is logged on to the computer system.

SWEEP for Windows NT Service Loader loads SWEEP for Windows NT and executes it in a service context rather than as a console application. With NTSweepLoader, SWEEP can be run on a system even if there are no users logged on to it.

## **Finding a virus**

If SWEEP for Windows NT Service Loader loads SWEEP for Windows NT, and SWEEP subsequently discovers a virus - do not panic! See the SWEEP for Windows NT user manual, or contact Sophos' technical support, for more information on dealing with a virus.

## **How to use this manual**

This manual assumes that the user has a reasonable knowledge of operating and configuring Windows NT and Windows NT services. It is organised into the following chapters:

- 'Installing NTSweepLoader', describes how to install and remove NTSweepLoader.
- 'Using NTSweepLoader', describes the NTSweepLoader modes, how to change the settings for these modes, how to start SWEEP as a service, and how to stop the NTSweepLoader service.
- 'Configuring NTSweepLoader', details the options available for configuring NTSweepLoader.

In addition, the 'Glossary' contains explanations of some technical terms used in this guide.

# Installing NTSweepLoader

---

This chapter describes how to install NTSweepLoader, register it as a service, and remove it from the service registry.

## System requirements

To use SWEEP for Windows NT Loader Service you need:

- Microsoft Windows NT.
- SWEEP for Windows NT.

The instructions for installing SWEEP for Windows NT can be found in the SWEEP for Windows NT user manual.

## Installing NTSweepLoader

To install NTSweepLoader, the NTSWPLDR.EXE file has to be copied to the SWEEP for Windows NT directory:

1. Start Windows NT.
2. Double-click the *Command Prompt* icon in *Program Manager* to open a command prompt window.
3. Insert the SWEEP for Windows NT Loader Service disk into the floppy disk drive.
4. At the command prompt, enter

```
A:\INSTALL A:\ C:\SWEEP
```

assuming that the NTSweepLoader disk is in drive A: and that SWEEP for Windows NT has been installed in the C:\SWEEP directory.

*Note:* NTSweepLoader must be installed on a local disk. This is because the Service Control Manager might not be able to access the mapped directory path of a networked drive.

## Registering the service

Before a service can be executed under Windows NT, it must be registered with the Service Control Manager. You will normally have to have *administrator* privileges to do this.

It is possible to register services manually (see your Windows NT documentation for more information), but NTSweepLoader can automate the process. From the command prompt window, ensure you are in the SWEEP for Window NT directory, and enter:

```
NTSWPLDR INSTALL
```

You should see a message similar to the following:

```
C:\sweep>ntswpldr install
NTSWPLDR Sweep for Windows NT Loader Service
Version 1.10
Copyright (c) 1995 Sophos Plc, Oxford
```

```
Configuring NTSweepLoader service on local machine:
```

```
Service created successfully.
Default settings:
...
```

If you do not see the 'Service created successfully' message, Windows NT should indicate why it was unable to successfully register the service.

## Removing the service

Should you wish to remove the NTSweepLoader service from the service registry, enter in the command prompt window:

#### NTSWPLDR REMOVE

The NTSweepLoader program will remain in the SWEEP for Windows NT directory, and as long as it remains there, it can be registered as a service again at a later date.



# Using NTSweepLoader

---

This chapter describes the different modes in which NTSweepLoader can start SWEEP for Windows NT as a service, how to see the settings of these modes, how to change these settings, how to start SWEEP as a service, and how to stop the NTSweepLoader service.

## NTSweepLoader usage

SWEEP for Windows NT Loader Service commands are entered at the command prompt. Enter

NTSWPLDR -?

to display a list of valid options and qualifiers:

```
C:\sweep>ntswpldr -?
NTSWPLDR Sweep for Windows NT Loader Service
Version 1.10
Copyright (c) 1995 Sophos Plc, Oxford
```

```
Usage: NTSWPLDR [\\machine] [show] [install|remove] <options> <modifiers>
```

### Where:

install	installs the Sweep for Windows NT loader service
remove	removes the Sweep for Windows NT loader service
show	displays current settings

### Options:

default	sets default options *
startup	set options for the startup sweep
server	set options for the InterCheck server
background	set options for the background scanner

### Modifiers:

-a=Y N	activates or deactivates this mode **
-c=Y N	attempt to open console for this mode of NTSWEEP **
-f=<...>	set location of NTSWEEP.EXE

-l=0|1|2|3|4 sets the level of error logging +  
-o=<...> set command-line parameters for this instance of NTSWEEP  
-p=L|N|H|R|D sets Low, Normal, High, Realtime or Default priority

- \* Should not be combined with 'startup', 'server' or 'background'
- \*\* Has no effect when used with 'default'
- + Only works when used with 'default'

### **NTSweepLoader modes**

NTSweepLoader can load SWEEP for Windows NT in three different modes. All three modes of operation can be configured and executed independently. You can have up to three modes in operation simultaneously.

#### **Startup mode**

If the Startup mode is active, then SWEEP will run when the service starts. If the service is set to start as soon as the system is booted, then SWEEP for Windows NT will start to check the computer for viruses immediately after booting.

#### **Server mode**

The Server mode runs SWEEP for Windows NT continuously as an InterCheck server. It will then be able to service requests from DOS, Windows or Macintosh based clients to sweep individual files for viruses. See the SWEEP for Windows NT user manual for more information on InterCheck servers.

#### **Background mode**

The Background mode runs SWEEP for Windows NT continuously in the background. As soon as one sweep is completed, a new one will start.

### **Displaying the current NTSweepLoader settings**

Enter

NTSWPLDR SHOW

to display a list of the current settings. For example:

```
C:\sweep>ntswpldr show
NTSWPLDR Sweep for Windows NT Loader Service
Version 1.10
Copyright (c) 1995 Sophos Plc, Oxford
```

Configuring NTSweepLoader service on local machine:

Default settings:

```
Options: Not Set
Priority: Not Set
Location: C:\sweep\NTSweep.EXE
Log Level: 1
```

No configuration for Startup mode.

Configuration for Server mode:

```
Active: Yes
Console: Not Set
Options: Not Set
Priority: Not Set
Location: C:\sweep\NTSweep.EXE
```

No configuration for Background mode.

The Default settings in the example above show that the default location for SWEEP for Windows NT is C:\SWEEP\NTSWEEP.EXE, and the default log level is 1 (see the 'Configuring NTSweepLoader' chapter for more information on configuration settings). These default settings are inherited by all three modes. If any mode has specific options set then these will over-ride the defaults.

The message 'No configuration for Startup mode' indicates that no configuration settings specific to the Startup mode have been set, and that the startup mode is not active.

By default, the Server mode is active. This means that as soon as the NTSweepLoader service is started, SWEEP for Windows NT will be available as an InterCheck server. See the SWEEP for Windows NT user manual for more information on InterCheck servers.

## Changing the current NTSweepLoader settings

To configure the different modes of NTSweepLoader, specify one of the following:

```
NTSWPLDR DEFAULT
NTSWPLDR STARTUP
NTSWPLDR BACKGROUND
NTSWPLDR SERVER
```

and add one or more command-line qualifiers. For example, entering

```
NTSWPLDR STARTUP -A=Y -L=0
```

will activate the Startup mode with no error logging. For further details of these command-line qualifiers, see the 'Command-line qualifiers' section of the 'Configuring NTSweepLoader' chapter.

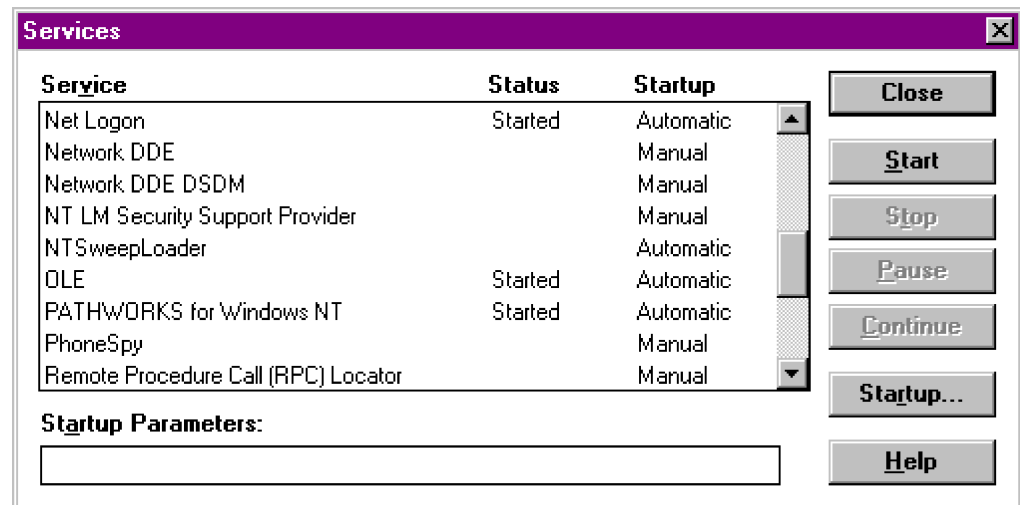
## Starting NTSweepLoader service

To start the NTSweepLoader service, enter the following command:

```
NET START NTSWEEPLOADER
```

'NET START' is the Windows NT command to start a service, which is in this case the NTSweepLoader service.

Alternatively, click the *Services* icon in the Windows NT *Control Panel* to display the Services dialog:



highlight the 'NTSweepLoader' service, and click *Start*.

*Note:* Even if NTSweepLoader has been configured to start a sweep as soon as the service is started, no new windows will appear on the screen. This is because, by default, services do not have permission to use the desktop. See the 'Displaying output' section of the 'Configuring NTSweepLoader' chapter for information on how to change this.

## Stopping NTSweepLoader service

To stop an active NTSweepLoader service from the command line, enter

```
NET STOP NTSWEEPLOADER
```

Alternatively, highlight the NTSweepLoader service on the Service dialog, then click *Stop*.

*Note:* If the NTSweepLoader service is stopped when a Background or Startup sweep is in progress, that sweep will continue until it is complete.



# Configuring NTSweepLoader

---

This chapter details SWEEP for Windows NT Loader Service's command line-qualifiers, describes how to configure NTSweepLoader to check networked drives, and tells you how to display the NTSweepLoader output on the screen.

## Command-line qualifiers

### -? Help

NTSweepLoader will display all command line qualifiers along with a short description of their function. For example:

```
NTSWPLDR -?
```

### -A=<Y|N> Activate or deactivate mode

The -A qualifier sets whether a particular mode is active or not. For example, to activate the Server mode, enter the command:

```
NTSWPLDR SERVER -A=Y
```

and to deactivate the Background mode:

```
NTSWPLDR BACKGROUND -A=N
```

This qualifier cannot be used with the Default mode.

### **-C=<Y|N> Create console window**

The -C qualifier determines whether or not a visible console window will be created for the selected mode. By default, the actions of the SWEEP service are not visible on screen. To allow all modes to open a console window, enter:

```
NTSWPLDR DEFAULT -C=Y
```

and to disallow the Startup mode from opening a console window:

```
NTSWPLDR STARTUP -C=N
```

It is not always possible for a program running as a service to display a console window (see the 'Displaying output' section, or your Windows NT documentation, for more information).

### **-F=<filename> Location of SWEEP**

This sets the location of the NTSWEEP.EXE program file. You will normally only set the default location:

```
NTSWPLDR DEFAULT -F=C:\SWEEP\NTSWEEP.EXE
```

### **-L=<0|1|2|3|4> Level of error logging**

This sets the level of information NTSweepLoader will write to the Windows NT Event Log. Level 0 logs no messages at all, level 1 logs only the most critical messages, while level 4 records all the messages NTSweepLoader generates.

This qualifier only applies to the Default settings. For example, to set the error reporting level to 3, enter the following command

```
NTSWPLDR DEFAULT -L=3
```

## **-O="<parameters>" Options for SWEEP**

This qualifier allows you to set the command-line qualifiers that each mode passes to SWEEP. By default, the Background and Startup modes operate with the -NK qualifier so that SWEEP will not wait for keys to be pressed. The Server mode always starts with the -ICS qualifier.

To make the Startup mode produce a log file:

```
NTSWPLDR STARTUP -O=" -P=C:\SWEEP\LOG.TXT"
```

To make all modes sweep all files and also sweep inside compressed files:

```
NTSWPLDR DEFAULT -O=" -ALL -SC"
```

See your SWEEP for Windows NT manual for full details of the SWEEP command-line qualifiers.

*Note:* If you set options for a particular mode, these will replace the defaults.

## **-P=<L|N|H|R|D> Priority of SWEEP mode**

Use the -P qualifier to set the running priority for the different modes. The priority levels are Low, Normal, High, Real-time and Default, where the Real-time level has the highest priority and the Default level inherits the level from the Default mode.

For example, to set the Server mode to run at high priority, enter the command:

```
NTSWPLDR SERVER -P=H
```

## **Configuring NTSweepLoader remotely**

It is possible to configure a NTSweepLoader service running on one machine remotely from another machine. Use the optional [\\machine] parameter to do this. For example,

NTSWPLDR \\\MAIN STARTUP -A=Y

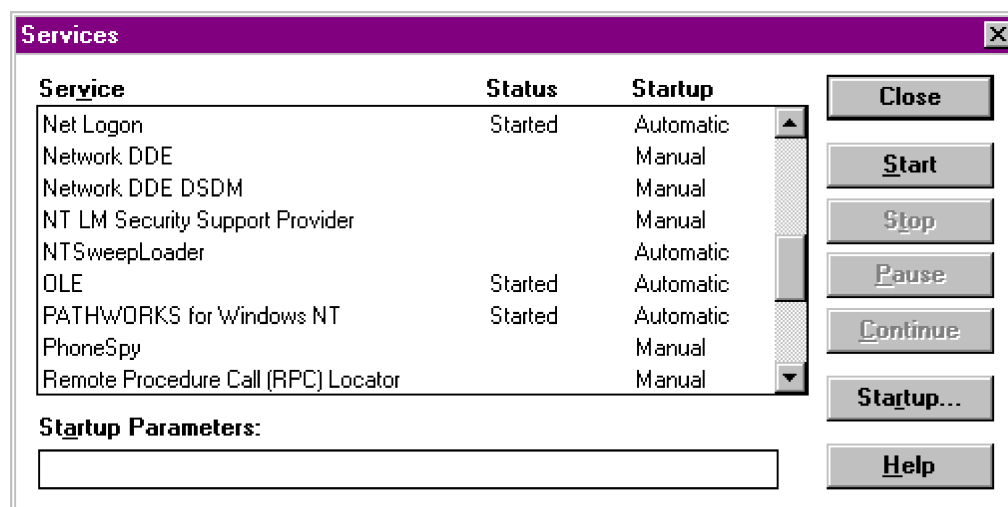
will activate the Startup mode of NTSweepLoader running on the server called 'MAIN'.

### **Sweeping network drives**

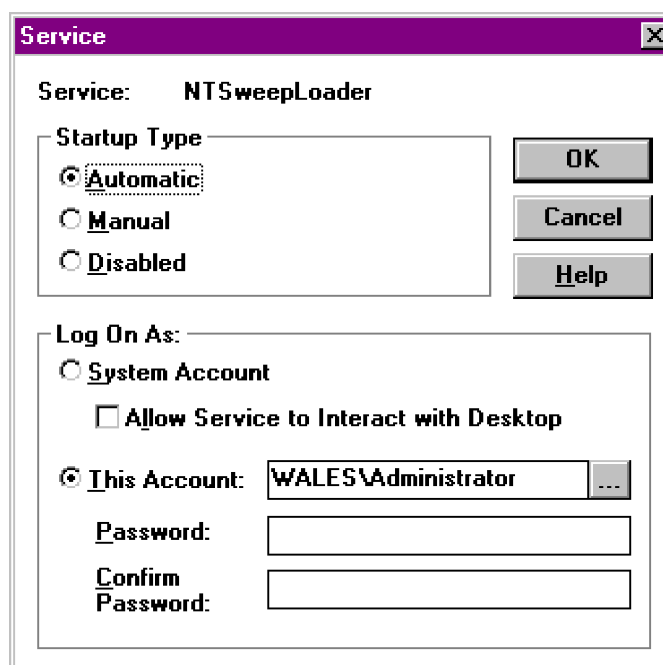
Access to all objects on a Windows NT system is controlled, and all processes must have an identity in order to execute. Without an identity it would be impossible to authorise a process' use of files, memory or any other part of the Windows NT system. Under normal use, a process inherits the identity of its parent, so any process started interactively by a logged-on user will have the same identity as that user.

Services operate independently of any logins. They must therefore be given their own process identity. By default, every new service runs with the SYSTEM identity, a built-in security account for system processes. The SYSTEM account does not have the right to access shares on remote computers. Therefore, if you wish to use NTSweepLoader to execute a sweep of a network drive, you will have to create an account with *administrator* or *backup operator* privileges for the service to log in as.

To assign the account for SWEEP for Windows NT Loader Service, click *Services* in the Windows NT Control Panel. This will display the Services dialog:



Highlight the NTSweepLoader service, then click the *Startup* button to display the Startup dialog. You will be able to enter the account name and password for the service to use next time it starts. For example:



To use the account immediately, you must stop and restart the service.

To sweep a network drive, include the full UNC name (\\Servername\Sharename) of the area you want to sweep either in the command-line options of the appropriate mode, or in a SWEEP.ARE file. For more information on SWEEP.ARE files, see the SWEEP for Windows NT user manual.

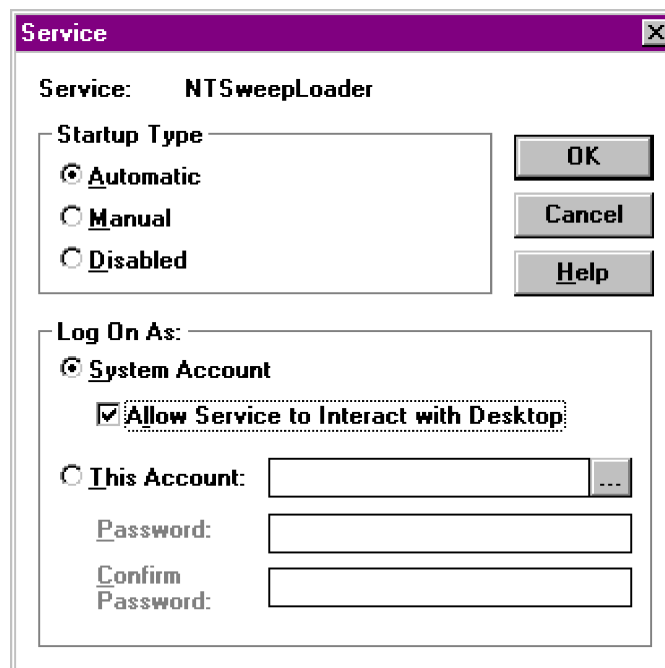
*Note:* If you configure NTSweepLoader to log in as anything other than SYSTEM, it will no longer be able to display its output on the screen.

### **Using a networked copy of NTSWEEP.EXE**

If you want to configure NTSweepLoader to load a copy of NTSWEEP.EXE held on another computer, you will have to change the service login account as described in the 'Sweeping network drives' section.

### **Displaying output**

Under normal circumstances a service is not able to display output on the screen. To allow the SWEEP for Windows NT Loader Service to display its output on the screen, you must set the 'Allow Service to Interact with Desktop' checkbox on the Startup dialog:



This is only possible if the service is logging on as SYSTEM. If you have changed the login account in the way described in the 'Sweeping network drives' section above, you will not be able to configure the service to access the screen.

To display output on the screen, you must also set the display option for the relevant mode (see the '-C=<Y|N> Create console window' section above).

## Scheduling SWEEP runs

The NTSweepLoader service does not provide facilities for scheduling SWEEP runs. However, scheduling can be performed using the Windows NT AT command. See the SWEEP for Windows NT user manual, or your Windows NT documentation, for more information.



# Glossary

---

<b>Booting-up:</b>	A process carried out when a computer is first switched on or reset, where the operating system software is loaded from disk.
<b>Bootstrapping:</b>	The same as Booting-up.
<b>File Server:</b>	A central data repository for a computer network, which may provide other centralised services such as shared printer control.
<b>Floppy Disk:</b>	Interchangeable magnetic disk used to store computer data. Usual formats are 3.5" and 5.25" disks.
<b>Hard Disk:</b>	A hermetically sealed magnetic disk, generally fixed within a computer, which is used to store data.
<b>Hardware:</b>	Any component of a computer system that has physical form. It is a term used to draw a distinction between the computer itself (hardware), and the programs which are executed on the computer (software).
<b>InterCheck:</b>	Proprietary Sophos technology which enables a server-based virus scanner to be used for scanning workstations connected to the network.
<b>LAN:</b>	Local Area Network: a data communications network covering a limited area (up to several kilometres in radius) with moderate to high data transmission speeds.
<b>Mapped Directory Path:</b>	A network drive known by its locally mapped name, e.g. the UNC directory path \\main\users\ might be mapped to F:\ on one particular computer on the network.
<b>Operating System:</b>	The computer program which performs basic housekeeping functions such as maintaining lists of files, running programs etc. PC operating systems include MS-DOS and OS/2, while minicomputer and mainframe operating systems include Unix, VMS and MVS.

<b>PC:</b>	Personal Computer: a desktop or portable single-user computer usually comprising a CPU, memory, screen, keyboard, and disk drive(s). PC has become synonymous with IBM compatible computer, even though this definition is not strictly correct.
<b>Program:</b>	A precise sequence of instructions that specifies what action a computer should perform. 'Software' is often used to describe a computer program.
<b>Server:</b>	See file server and security server.
<b>Software:</b>	See program.
<b>UNC:</b>	Universal Naming Convention: a standard system for naming network drives, e.g. the UNC directory \\main\users\ would refer to the users directory on the server called main.
<b>Virus:</b>	Sometimes explicitly referred to as a computer virus, a program which makes copies of itself in such a way as to 'infect' parts of the operating system and/or application programs. See boot-sector virus and parasitic virus.
<b>WAN:</b>	Wide Area Network, a set of computers that communicate with each other over long distances.
<b>Workstation:</b>	An ill-defined term used to describe a powerful single user, high performance, minicomputer or microcomputer, which is used by individuals for tasks involving intensive processing, perhaps CAD or simulation.

# Index

---

## A

activate mode 17  
administrator 8, 20  
AT command 23

## B

background mode 12  
backup operator 20  
bootstrapping 25

## C

command line qualifiers 19  
console  
  application 5  
  window 18

## D

disk  
  floppy 25  
  hard 25

## E

event log 18

## F

file server 25  
floppy disk 25

## H

hard disk 25  
hardware 25

## I

InterCheck 12, 13, 25

## L

LAN 25

local area network, see LAN

## M

mapped directory path 8, 25

## N

NET START command 14

network

  local area, see LAN  
  wide area, see WAN

NTSweepLoader

  activate mode 17  
  background mode 12  
  create console window 18  
  default settings 13  
  displaying current settings 12  
  help 11, 17  
  installing 7–8  
  log level 18  
  priority 19  
  remote configuration 19  
  server mode 12, 13  
  starting 14  
  startup mode 12  
  stopping 15

## O

operating system 25

## P

priority 19  
process identity 20  
program 26

## S

scheduling SWEEP runs 23  
server mode 12, 13  
service

- displaying output 15, 18, 22, 22–23
- identity 20
- registering 8
- Windows NT 5
- startup mode 12
- SWEEP.ARE 22
- system identity 20, 23

### **T**

- technical support
  - Sophos 2

### **U**

- UNC path 22, 26

### **V**

- virus
  - definition 26

### **W**

- WAN 26
- wide area network, see WAN
- workstation 26

# User comment form

---

We welcome your comments and suggestions on our software and documentation. They help us to provide you with better products. Please fax this form to Sophos on 01235 559935 or (+44) 1235 559935 international.

Product: SWEEP for Windows NT Loader Service

Version: .

Documentation:	Excellent	Good	Fair	Poor
Accuracy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Completeness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Page layout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Software:	Excellent	Good	Fair	Poor
Ease of use:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of installation:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall assessment:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate any errors found in this software or documentation:

---

---

---

Please give any suggestions for improving the software or documentation:

---

---

---

Name:

Position:

Organisation:

Address:

Telephone:  Fax:

Signed:  Date:

Intentionally left blank

## LICENSING

All items of software written by Sophos Plc are licensed products. Sophos Plc reserves all distribution rights to all its software. Use of these products is prohibited without a valid licence agreement below. The master copies for the software are enclosed in a sealed envelope. By opening that envelope or by using the software you indicate your compliance with the accompanying licence agreement. Before using any of these products, the licence agreement should be read and understood.

The licence agreement explicitly limits the duplication and use of these products. Any uses of these products that might lead to the creation of or distribution of unauthorised copies of these products, will be a breach of the licensing agreement and Sophos Plc will exercise its right to reclaim the original and all copies derived in whole or in part as well as to pursue any appropriate legal action.

## COPYRIGHT

Copyright (c) 1986,95 by Sophos Plc. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without prior written permission of Sophos Plc, 21 The Quadrant, Abingdon, OX14 3YS, England.

## DISCLAIMER

Sophos Plc shall be under no liability in the event of the failure to install any product otherwise than in accordance with the manuals, installation instructions and licensing agreements for the time being in force. Further, the liability of Sophos Plc shall not extend to any loss of an economic nature arising from the installation of software howsoever caused. Sophos Plc reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of Sophos Plc to notify any person of such revision or changes.

## TRADEMARKS

Any words used in this manual which are trademarks are acknowledged as such.

## END USER LICENCE AGREEMENT

Sophos Plc agrees to grant and the End User agrees to accept on the following terms and conditions a non-transferable and non-exclusive licence to use the serialised software program(s) herein delivered.

### 1. Term of Licence

This agreement is effective from the date of receipt of the above referenced program(s) and shall remain in force until terminated by the End User or by Sophos Plc as provided below. Opening of the sealed diskette envelope and/or use of the program(s) supplied implies that the End User accepts all the terms and conditions of this agreement without exception, deletion or alteration. If this is not acceptable, return the program(s) unopened, intact and unused to Sophos Plc immediately. Any licence under this agreement may be discontinued by the End User at any time upon one month's prior written notice. Sophos Plc may discontinue any licence or terminate this agreement if the End User fails to comply with any of the terms and conditions of this agreement.

### 2. Scope of Licence

Each program licence granted under this agreement authorises the End User to use the Licensed Program in any machine-readable form on any **single computer processor system at any single site**. A separate licence is required for each processor on which the Licensed Program will be used except as specified in (3) below. This agreement and any of the licences, programs or materials to which it applies may not be sold, assigned, sub-licensed or otherwise transferred by the End User without the prior written consent of Sophos Plc. No right to print, copy or otherwise reproduce in whole or in part the Licensed Programs or any of the associated documentation is granted except as hereinafter expressly provided.

### 3. Permission to Copy Licensed Programs

Any Licensed Programs which are provided by Sophos Plc in machine-readable form may be copied in sufficient numbers for lawful use by the End User with the designated system for backup purposes or for archive purposes provided that no more than 3 copies will be in existence under any one licence at any one time. The End User agrees to maintain appropriate records of the number and locations of all such copies of licensed programs. The End User shall not copy in whole or in part any Licensed Documentation which is provided by Sophos Plc in printed form under this agreement. Additional copies of printed documentation may be acquired from Sophos Plc.

### 4. Protection and Security

The End User agrees not to provide or otherwise make available any Licensed Program to any person other than the End User's or Sophos Plc's employees without prior written consent from Sophos.

### 5. Discontinuance

Within one month after the date of discontinuance of any licence under this agreement, the End User will give Sophos Plc a certificate certifying that to the best of his knowledge, the original and all copies in whole or in part in any form, of the Licensed Programs have been destroyed.

### 6. Limitations of Liability

Sophos Plc makes no express or implied warranties of any kind with regard to the performance or fitness of purpose for any Sophos software. Sophos Plc is not responsible for any loss or inaccuracy or disclosure of data of any kind. Furthermore Sophos Plc shall not be liable for any loss of profits, loss of business, loss of sales or loss of goodwill or any similar economic loss, whether through negligence of Sophos Plc or not.

### 7. Governing Law

The construction, validity and performance of this agreement shall be governed by English Law and the English Courts shall have exclusive jurisdiction over all matters arising out of it.

**Australia:**

Racal Australia Pty Limited  
ACN 056 858 032  
3 Powells Road  
Locked Bag 100  
Brookvale  
NSW 2100 Australia  
Tel 02 936 7000 · Fax 02 936 7036 · Code +61

**Bahrain:**

International Information Systems  
PO Box 3086  
Flat 31, Building 123 Block 320  
Exhibition Road  
Manama  
Bahrain  
Tel 293821, 292040 · Fax 293408 · Code +973

**Belgium:**

CRYPSSYS Data Security  
P.O. Box 542  
4200 AM Gorinchem  
The Netherlands  
<http://www.euronet.nl/users/ernstoud/crypsys.html>  
Tel 01830 24444 · Fax 01830 22848 · Code +31

**Brazil:**

Datasafe Produtos de Informática e Serviços Ltda  
Rua Santa Justina, 336 Gr. 108  
Itaim  
04545-041 Sao Paulo SP  
Brazil  
Tel 011 829 8918 X 264 · Fax 011 829 8918 X 264 · Code +55

**Channel Islands:**

Softek Services Ltd  
Calista House  
Lewis Street  
St Helier  
Jersey  
Email Softek@Itl.net  
Tel 01534 811182 · Fax 01534 811183 · Code +44

**Croatia:**

Qubis d.o.o.  
Nova Cesta 1  
41000 Zagreb  
Croatia  
Tel 01 311 012 · Fax 01 311 012 · Code +385

**Denmark:**

Lamb Soft & Hardware  
Lille Strandstraede 14  
1254 Copenhagen K  
Denmark  
Email lamb@sophos.com  
Tel 3393 4793 · Fax 3393 4793 · Code +45

**Finland:**

Tietonovo OY  
Asiakkaankatu 9  
009 30 Helsinki  
Finland  
Tel 07525 21 · Fax 07525 22 10 · Code +358

**France:**

Racal Datacom S.A.  
18 Rue Jules Saulnier  
93206 Saint Denis Cedex  
France  
Email plemounier@racal-datacom.fr  
Tel 1 49 33 58 00 · Fax 1 49 33 58 33 · Code +33

**Germany:**

NoVIR DATA  
Hochhofenstrasse 19-21  
23569 Lübeck  
Germany  
Email 100141.2044@compuserve.com  
Tel 0451 306 066 · Fax 0451 309 600 · Code +49

**Hong Kong:**

Racal-Datacom Limited  
Sun House  
181 Des Voeux Road  
Central Hong Kong  
Tel 28158633 · Fax 28158141 · Code +852

**Ireland:**

Renaissance Contingency Services Ltd.  
27 Longford Terrace  
Monkstown  
Co Dublin  
Ireland  
Tel 01 280 9410 · Fax 01 280 8302 · Code +353

**Italy:**

Telvox s.a.s.  
Via F.lli Cairoli 4-6  
40121 Bologna  
Italy  
Email telvox.teleinf@bologna.nettuno.it  
<http://www.nettuno.it/fiera/telvox/telvox.htm>  
Tel 051 252 784 · Fax 051 252 748 · Code +39

**Malta:**

Shireburn Co. Ltd.  
2 Matilda Court  
Guze Cali Street  
Ta'Xbiex, Msd 14  
Malta  
Email 73113.3620@compuserve.com  
Tel 319977 · Fax 319528 · Code +356

**Netherlands:**

CRYPSSYS Data Security  
P.O. Box 542  
4200 AM Gorinchem  
The Netherlands  
Email crypsys@pi.net  
<http://www.pi.net/~crypsys/>  
Tel 01830 24444 · Fax 01830 22848 · Code +31

**New Zealand:**

Racal New Zealand Ltd.  
Racal House  
PO Box 26-143  
3 Margot Street  
Epsom, Auckland  
New Zealand  
Tel 09 520 4309 · Fax 09 524 4382 · Code +64

**Norway:**

Protect Data Norge AS  
Brobekkveien 80  
0583 Oslo  
Norway  
Email protect\_data@oslonett.no  
Tel 022 65 64 50 · Fax 022 65 64 58 · Code +47

**Skanditek A/S**

POB 1595 VIK  
0118 Oslo 1  
Norway  
Tel 063 82 61 61 · Fax 061 32 21 15 · Code +47

**Poland:**

Safe Computing Ltd.  
ul. Nocznickiego 33  
01-918 Warszawa  
Poland  
Email safecomp@ikp.atm.com.pl  
Tel 022 350058 · Fax 022 350059 · Code +48

**Portugal:**

Década Informática s.a.  
Apt. 7558  
Estr. Lisboa/Sintra, Km 2,2  
2720 Alfragide  
Portugal  
Email amandio.sousa@decada.mailpac.pt  
Tel 01 471 2045 · Fax 01 471 2191 · Code +351

**Singapore:**

Racal Electronics (S) Pte. Ltd.  
26 Ayer Rajah Crescent #04-06/07  
Singapore 0513  
Email respl@technet.sg  
<http://www.asia-online.com/corporate/racal-asia/>  
Tel 779 2200 · Fax 778 5400 · Code +65

**Slovenia:**

Sophos d.o.o.  
Zwitrova 20  
68000 Novo Mesto  
Slovenia  
Email slovenia@sophos.com  
Tel 068 322977 · Fax 068 322975 · Code +386

**Spain:**

Sinutec  
Data Security Consulting S.L.  
Gran Via Carlos III 84 Bajos 1  
Edificios Trade Torre Sur  
08028 Barcelona  
Spain  
Tel 03 490 70 52 · Fax 03 490 76 04 · Code +34

**Sweden:**

Protect Datasäkerhet AB  
PO Box 22208  
10422 Stockholm  
Sweden  
Email info@protect-data.se  
Tel 08 653 50 50 · Fax 08 653 55 65 · Code +46

**Switzerland:**

Performance System Software SA  
Rue Jean-Pelletier 6  
1225 Chene-Bourg  
Geneva  
Switzerland  
Email phm@pss.ch  
Tel 022 860 1030 · Fax 022 349 4775 · Code +41

**Turkey:**

Logic Bilgisayer Ltd  
Esentepe Cad. Techno Centre 10/2  
Mecidiyekoy  
Istanbul  
Turkey  
Tel 0212 212 3664 · Fax 0212 212 3669 · Code +90

**United States of America:**

ACT  
7908 Cin-Day Rd, Suite W  
West Chester  
Ohio 45069  
USA  
Email farrell@infobahn.icubed.com  
<http://www.icubed.com/sophos.html>  
Tel 513 755 1957 · Fax 513 755 1958 · Code +1

**Uruguay:**

Datasec  
Juan Maria Perez 2811  
Apto 101  
Montivideo  
Uruguay  
Tel 02 707053 · Fax 02 715894 · Code +598

Sophos Plc • 21 The Quadrant • Abingdon Science Park • Abingdon • OX14 3YS England •  
Tel +44 1235 559933 • Fax +44 1235 559935 • BBS +44 1235 559936  
Email enquiries@sophos.com • <http://www.sophos.com/>