

**Getting Started
with
Core Internet-Connect ^(TM)
Release 1.1**

Core Ssystems
PO Box 31022
Walnut Creek, CA 94598
(510) 943-5765

Release 1.1 Notes (7/94)

1. This is maintenance update 1.1 of Internet-Connect (TM). It contains no new features relative to Release 1, only bug fixes. When this release is installed in the same directory as the previous release, it will overwrite old Internet-Connect (TM) files in the directory with the following exception. The update release will **NOT** overwrite your existing **core.ini** and **hosts** files. Instead, it will copy the new **core.ini** and **hosts** files to **core.new** and **hosts.new** respectively. If you have been given a new license number with this release, click on **wsaconf** and enter the new license number. All other configuration parameters should remain the same.

2. If you are running Windows/Windows For Workgroup 3.11 please add the following line to autoexec.bat:

xx:\corewsds\winpkt.com yy zz

where:

xx: drive where Internet-Connect is installed.

yy: software interrupt value to be used by winpkt (e.g. 0x60)

zz: software interrupt value being used by existing packet driver or equivalent shim (e.g. 0x61)

Core Internet-Connect Release Notes

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Manufacturer is Core Systems Inc., PO Box 31022, Walnut Creek, CA 94598. (510) 943-5765

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Summary of Features

Winsock Support

Winsock API v1.1
Winsock DLL, LIB, Header File
Winsock Online API Reference
128 sockets
Raw sockets

TCP/IP

100% DLL
TCP,UDP,IP protocols
ARP
Domain Name Server (DNS)

Network Interface Support

ODI, NDIS, Packet Driver

Network Operating System Compatibility

Novell Netware
Microsoft LAN Manager
Microsoft Windows for Workgroup
Banyan VINES
Artisoft LANtastic
DEC Pathworks
IBM LANServer

Debugging Tool

Winsock Call Trace

Applications

Ping, Finger

Hardware Requirements

IBM PC/XT/AT, PS/2, or compatible systems with 2MB or more memory
2 MB available disk space
Any Ethernet adapter with one of the following drivers:
 NDIS (Microsoft/3Com)
 ODI (Novell)
 ODI/NDIS (Novell)
 Packet Driver (Public Domain)

Software Requirements

PC-DOS or MS-DOS 3.30, 4.01, 5.0, 6.0, 6.1, 6.2
Microsoft Windows 3.x

1. Introduction

Welcome to the release 1 of **Core Internet-Connect**. This software provides features to serve both as a development tool as well as a networking software platform. Whether you are a professional developer seeking a Windows^(TM) network development tool; or a user requiring a fast, robust networking package to run Window Socket applications, or a Value-Added-Reseller seeking a software utility to add networking capability to existing applications, this product is for you.

This release of **Core Internet-Connect** consists of the following features:

- **Winsock 1.1 API DLL**, library, header, and online reference help files.
- **TCP/IP protocol stack**. The stack is implemented completely as a Windows^(TM) DLL hence requires no below-640K conventional DOS memory. The stack is designed for robustness and speed. It provides a stable and high performance networking platform on which production applications can be deployed. Internal benchmark comparisons with other commercial TCP/IP stacks shows Core Systems TCP/IP consistently provide superior data transfer speed and throughput. Other features include support for **Domain Name Server (DNS)**, **128 sockets** and **raw socket**.
- **VXD driver** provides interface between protected mode DLLs and real mode LAN drivers. The driver's 32-bit mode operation enhances speed and responsiveness of the software.
- **WSASPY** utility captures and traces all Winsock API calls. This utility runs totally outside of Winsock and application under trace. It requires no modifications to either application or Winsock code, and can be used with Core's or other vendor's Winsock.
- Windows-based **PING and FINGER** utilities.
- Core **Internet-Connect** is compatible with the following network operating systems: **Novell Netware**, **Microsoft LAN Manager**, **Banyan VINES**, **Artisoft LANtastic** **DEC Pathworks**, and **IBM LANServer**. It supports the following LAN drivers: **Packet Driver**, **ODI Driver** and **NDIS Driver**.

This following shareware or public-domain software provide features which complement **Internet-Connect**. They are available on many Internet archive sites. If you have no Internet access, or have problem downloading them, please contact us.

- **Pktdrvr**: Crynwr packet driver collection. This collection provides drivers for all commercial LAN adapters.
- **Qvtnet**: this shareware package provides Winsock-based **telnet**, **ftp**, **ftp server**, **rcp server**, **mail**, **news**, and **lpr** utilities.
- **Mosaic**: an excellent graphical interface tool available from NCSA, designed for user to browse, search and navigate for information on the Internet.
- **Networking shims**: (**odipkt.com**, **dis_pkt9.dos**, **ndispkt.sys**) conversion software which enable **Internet-Connect** to interface to different types of LAN drivers: **ODI**, **NDIS drivers**.

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A wide variety of applications written to Winsock API currently exist. Many are available as shareware or public domain software. It is anticipated that over the next couple of years most distributed (client/server) applications running on PCs will be using Winsock as their main transport mechanism.

2. List of Files

The following files are packaged in this product:

- readme.lst

Setup and initialization files:

- setup.exe
- core.ini

This documentation:

- relnotes.wri

Winsock API libraries and supported files:

- winsock.dll
- winsock.lib
- winsock.h
- winsock.hlp
- winsock.ico

Core TCP/IP protocol stack:

- coretcp.dll

Protected Mode/Real Mode interface driver:

- vxdwsa.386

Network configuration databases

- hosts
- services
- protocol
- resolver.cfg

Winsock background monitor program:

- wsacore.exe

Winsock API spy utility:

- wsaspy.exe
- wsatrap.dll
- dllpatch.dll

Winsock internet utility:

- wping.exe
- wfinger.exe

Problem report form

- problem.wri
- problem.txt

3. Installation procedure

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Internet-Connect includes a Windows-based installation program. To install, start Windows, then run the **Internet-Connect** setup program (setup.exe). Following the installation, you must add COREWSDS directory to your PATH in autoexec.bat and reboot the machine for the change to take effect.

4. Network setup guide

Core **Internet-Connect** uses TCP/IP as its transport protocol. It supports a wide variety of LAN drivers and is compatible with other network operating systems including Novell Netware and Microsoft LAN Manager. To setup Internet-Connect you need to be somewhat familiar with TCP/IP and its administration. This section provides information to help you configure the networking environment for Internet-Connect.

We are providing two files, lmsetup.txt and nwsetup.txt, which contains sample entries in relevant configuration files (autoexec.bat, net.cfg and protocol.ini) as examples of how to setup LAN driver for Core Winsock to work in Windows for Workgroup (TM) and Netware (TM) environments.

The network setup procedure involves two following steps:

Step 1: Setup TCP/IP configuration.

- Determine the IP address and name of your machine.
- Click on the wsacnf program icon, then fill in appropriate information.

Step 2: Setup Winsock to run with other networking operating systems. First determine what networking operating system (Lan Manger, Novell, TCP/IP etc.), and LAN driver (ODI, packet driver, NDIS, etc.) you are using. Then follow the examples below to startup Internet-Connect.

4.1 Packet Driver

Note: The following files will need to be modified for this configuration. Be sure to save the existing versions of the files before proceeding with the set up:

autoexec.bat

Core Systems Winsock and TCP/IP stack is designed to run with packet drivers (via VXDWSA.386). If you are currently using packet driver, you should not have to modify your current networking setup or configuration files to run Internet-Connect. After completing **step 1** above, start up Windows then click on **wping** to try out Winsock.

If you are setting up a new network and wish to use packet driver as your LAN driver, you need to load and start the packet driver TSR before starting Windows. Assuming you are using WD8013 Ethernet Adapter, the following sample entries in autoexec.bat shows how this is done.

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```
wd8003.com 0x60 7 0x2a0 0xd000  
win
```

(The wd8003 line is to load the SMC 8003 Ethernet Adapter driver. This driver is in the Crynwr packet driver package, available from oak.oakland.edu, as well as many Internet archive sites).

4.2 NDIS driver (LAN Manager, Windows for Workgroup)

Note: The following files will need to be modified for this configuration. Be sure to save the existing versions of the files before proceeding with the set up:

autoexec.bat
config.sys
protocol.ini

If you are running LAN Manger^(TM) or Windows For Workgroup^(TM), you are probably using a NDIS driver. The following configuration files show a sample of setup required to run Core Winsock with NDIS driver and LAN Manger.

autoexec.bat

netbind
win

config.sys

device=C:\WFW\protman.dos /i:C:\WFW
device=C:\WFW\workgrp.sys
device=C:\WFW\smcmac.dos
device=dis_pkt9.dos

(Note the last line, it loads the Packet Driver-to-NDIS converter, which enables software using packet driver interface, such as Core Winsock, to run with NDIS driver. This is a public domain software, available from many Internet archive sites).

NDIS protocol.ini

[MS\$W13EP]
DriverName=SMCMAC\$

[pktdrv]
drivename=pktdrv\$
bindings=MS\$W13EP
intvec=0x61

4.3 ODI driver (Novell Netware)

Note: The following files will need to be modified for this configuration. Be sure to save the existing versions of the files before proceeding with the set up:

autoexec.bat
net.cfg

If you are using Netware or Netware Lite, you are probably using an ODI driver. The following configuration files provide a sample of setup required to run Core Winsock with ODI driver and Netware.

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autoexec.bat

```

C:\NETWARE\lsf
C:\NETWARE\wdplus
C:\NETWARE\ipxodi A
C:\NETWARE\netx (/ps=SERVERNAME)
odipkt 1 96

```

(Note the last line, it loads the Packet Driver-to-ODI driver converter, which enables software using packet driver interface, such as Core Winsock, to run with ODI driver. This is a public domain software, available from many Internet archive sites).

net.cfg

```

Link support
    buffers 6 1600

# Setup the WDPLUS card
Link driver WDPLUS
    INT 7
    MEM D0000
    PORT 2A0
    envelope type ETHERNET_802.3
    envelope type ETHERNET_II
#    envelope type ETHERNET_802.2
#    envelope type ETHERNET_SNAP

Protocol IPX
    Bind wdplus

```

5. CORE.INI

Core.ini is the initialization file for all components of Internet-Connect, that is, winsock.dll, coretcp.dll and associated utilities: waspy, wping, wfinger, wsacore. This file must be in Windows directory or in one of directories defined in **PATH**.

(Note: This file is used by Internet-Connect to determine your network configuration. You should not have to modify this file directly, as easier tools, such as wsacnf program, are provided for you to configure your network).

Core.ini follows the format of Windows **.ini** files, that is, sections and entries have following form:

```

[section name]
keyword=value

```

Core.ini currently contains the following sections and keywords:

;the following section is used by coretcp.dll

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[tcpip]

;license number of this copy (please do not change this entry).

license number=xx-xxxx-xxxxxxx

; ip address of this host

ipaddress=193.100.100.3

; network mask

netmask=255.255.255.0

; the following section is used by winsock.dll

[winsock]

; name of this host

hostname=charlie_brown

; name of domain this host belongs to

domainname=peanuts

; if use DNS for name resolution set the following keyword to yes (default is no)

usedomainnameserver=yes|no

; if use NIS for name resolution set the following keyword to yes (default is no)

usenisnameserver=yes|no

; if use bootp set the following keyword to yes (default is no)

usebootp=yes|no

; if use DNS or NIS, enter ip addresses of name servers

nameservers=193.100.100.2,193.100.100.5

; to disable winsock background monitor (wsacore) set the following keyword to no ;
(default is yes)

usewinsockmonitor=yes|no

; to substitute your own winsock monitor (instead of using wsacore),
; set its full path name here

customwinsockmonitor=d:\mywsamon.exe

; full pathname of hosts, services and protocol files

; note that if name server is used, hosts file is not required. In

; addition if internal services and protocol databases are used (see below),

; pathnames for corresponding external services and protocol files are

; not needed

hostsdb=c:\corewsds\hosts

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servicesdb=c:\corewsds\services
protocolsdb=c:\corewsds\protocol

*; CORE winsock contains built-in services and protocol files,
 ; hence obviating the need for external services and protocol files. If
 ; you do not wish to use the built-in files, set the following keywords
 ; to no (default is yes)*

useinternalservdb=yes|no
useinternalprotodb=yes|no

;the following section is used by wsacore.exe

[wsacore]

*;this keyword enables wsacore to capture and log debugging messages generated
 ;by winsock.dll and coretcp.dll. This keyword is set to no by default.*

debug=yes|no

*;wsacore is normally a hidden window. To make it visible, set the following keyword
 ;to yes (default is no)*

visible=yes|no

*;wsacore is started automatically by winsock.dll when the first application task
 ;issues the first winsock call. It normally exits (after a short delay) when the last
 ;winsock task exits. The following keyword controls this delay, i.e seconds of
 ;inactivity before exiting. A zero value means never exit.*

inactivetimeout=n|1|0

*;wsacore normally will not respond to close down by operator command (Alt-F4,
 ;or click on Exit) even when it is visible. The following keyword disables this feature.
 ;It should be used for testing purpose only.*

testing=yes|no

;the following section is used by wsaspy.exe

[wsaspy]

;no keywords currently defined

;the following section is used by wping.exe

[wping]

;no keywords currently defined

;the following section is used by wfinger.exe

[wfinger]

;no keywords currently defined

6. WSACORE

Wsacore is part of Core Winsock. It serves as background monitor for the functioning of winsock.dll, coretcp.dll, and performs functions which cannot be done by a DLL. **Wsacore** also captures and logs messages generated by winsock.dll and coretcp.dll.

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These messages are written to the file **wsacore.log** which resides in the same directory as **wsacore**. If debug is enabled (**debug=yes** in **core.ini**, **wsacore** section), debug messages will be written to the file **wsacore.trc** in same directory.

Wsacore is started up by **winsock.dll** on the first winsock call and exits when the last winsock application exits. **Wsacore** is normally invisible to Windows user. This feature can be changed via **core.ini**.

7. WSASPY

Wsappy is a utility designed to capture and log a particular or all winsock function calls. This is a standalone utility. It requires no code change to application under trace, and works with any **winsock.dll** conforming to version 1.1 of the Specification. **Winsock API trace** can be stored in circular buffer in memory (for minimum performance impact) to be written out to file (**wsaspy.trc**) on user's command at later time, or dynamically displayed on screen and continually written out to log file (**wsaspy.log**) (this has some performance impacts). Wsappy log files (**wsaspy.log** & **wsaspy.trc**) are in the same directory as **wsaspy.exe**.

8. WPING

Wping is Windows version of the popular TCP/IP ping program. It is designed to probe for connectivity of a remote host on the network.

8. WFINGER

A Windows implementation of the popular UNIX finger program..

9. Online help.

Winsock API Reference is available online. To invoke Help, click on **winsock.hlp** icon in **Core Winsock** Program Group, or the Help menu of any Internet-Connect utility.

10. Report Problems.

A problem report template (**problem.wri**) is included with this package. Please use this form to report any problems encountered. You may also use this form to send in comments or suggestions on our product. We welcome any feedbacks you can provide to help us improve Internet-Connect. Please send the completed form to Core Systems:

Core Systems
PO Box 31022
Walnut Creek, CA 94598.
(510) 943-5765

or email to:

lvuong@cais.com or 71552.3666@compuserve.com.

12. Trouble shooting tips.

System hang.

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Probable cause:

Mismatched winsock.dll and TCP/IP protocol stack.

*Incorrect **winsock.dll** is loaded (more than one winsock.dll in your **PATH**)*

core.ini** not initialized properly or not in **PATH

Winsock.dll cannot find vxdwsa.386.

Probable cause:

***vxdwsa.386** failed to load*

device=c:\corewsds\vxdwsa.386** entry missing from **system.ini

***vxdwsa.386** is not in correct path*

Winsock.dll cannot find packet driver.

Probable cause:

***packet driver** TSR or appropriate **shim** failed to load*

***packet driver** TSR or **shim** is loaded at incorrect software interrupt, or*

You are running Windows for Workgroup 3.11 which requires a slightly different networking setup than that of WFW 3.1. Run network setup, select unlisted or updated driver in the driver dialog, then enter the drive containing Internet-Connect installation floppy.

Your packet driver or equivalent shim is loaded in high memory. At start-up time, Internet-Connect scans memory to locate a packet driver. This method does not work if the driver is loaded in high memory. In which case, add the following lines to your system.ini file:

[vxdwsa]

pdint=nn

where nn is the software interrupt value (in decimal) used by your packet driver. This value is typically in the range of 96 to 111.

Cannot startup any network application.

Probable cause:

***Name server** is not running*

***Hosts** file is missing*

***IP address** or **local host name** is not set*

Can start application but cannot establish communication.

Probable cause:

Host is not responding.

*Incorrect packet driver name or binding in **protocol.ini***

*Incorrect **Ethernet frame type** in **net.cfg***

13. Network configuration databases

\corewsds\hosts

\corewsds\services

\corewsds\protocol

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\corewsds\resolver.cfg

14. Unsupported software (Shareware and Public Domain)

The following packages are shareware or public domain software. They provide features which complement **Internet-Connect**. They are not supported by Core Systems. Please refer to notes included with each package for information and rules governing their use.

Crynwr public domain packet driver collection (Current version is Version 11).

QPC Software's QVTNet shareware package: Winsock-based Internet utilities (telnet, ftp, rcp, lpr). (Version 3.97 is the current version).

Various public domain shims: odipkt.com, dis_pkt9.dos.

NCSA Mosaic for Windows.