



UNOVERICA

Domain Name System

Version 1.09b

For Novell NetWare®

Administration Guide

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**Unoverica Corporation
6731 Banner Lake Circle
Suite 12206
Orlando, Florida 32821
U.S.A.**

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About This Guide

This is an administration guide for Unoverica Domain Name System Version 1.09b. It is intended for system administrators or others who must install, configure, and maintain Unoverica Domain Name System and its associated software.

This guide assumes that you have a basic familiarity with NetWare and with electronic message systems. Although previous experience installing NetWare is helpful, it is not required.

Content Overview

This guide contains the following chapters and appendixes. A glossary, a list of trademarks, and an index are also included at the end.



Some of the following sections are still under construction.

Chapters

Appendixes



Conventions

This guide uses a variety of typographical conventions, special terminology, and symbolic conventions.

Typographical Conventions

<Enter>

- A single key name within brackets represents a keyboard key that you press. For example:

Press <Enter> to accept the default value.

<Alt + C>

- Two key names within brackets separated by a plus sign (+) represent two keyboard keys used at the same time. In this example, press and hold the <Alt> key; then press <C>.

Bold monospace

- When in bold, a monospace font indicates commands that you enter at a prompt. For example:

Type **load install** at the prompt (:).

Monospace

- When not in bold, a monospace font indicates messages that the system displays. For example:

Loaded successfully.

Italic

- Words appearing in italic monospace type are variable arguments that you must replace with the appropriate values. For example:

Replace *drive* with the letter of the disk drive from which you're installing the software.



UPPERCASE

- Words appearing in UPPERCASE are file names or pathnames. For example:
The UCCON configuration files are stored in SYS:USR\LIB\UC.

Terminology

The following terms are used throughout this guide in the following ways:

Third-party applications

- Communications programs that support the Unoverica Message Transport API and are manufactured by vendors other than Unoverica Corporation.

Select or choose

- Use the cursor keys to highlight the item and press <Enter>.

Enter

- Type the indicated text and press <Enter>. For example:

Enter `load uccon`

Enter a value between 1 and 255.

Symbolic Conventions



A *Suggestion* denotes hints, tips, or helpful information that may be useful but is not critical.



An *Important* symbol denotes important information that you should read. It is also a visual cue to key concepts and facts.



A *Warning* symbol carries a stronger message than an Important symbol, and is used to call attention to a situation in which a critical or irreversible error can be made.



Additional Reading



Contacting Unoverica Corporation

Unoverica Corporation's technical support program provides telephone and electronic mail technical support. We welcome hearing from our customers.

The mailing address for Unoverica Corporation is as follows:

Unoverica Corporation
6731 Banner Lake Circle
Suite 12206
Orlando, Florida 32821
U.S.A.

To contact us by telephone, fax or electronic mail, refer to the following table.

For	Telephone	Fax	Electronic Mail
Product Support	407-238-1710	407-238-2565	support@unoverica.com
Product Information	407-238-2310	407-238-2565	info@unoverica.com
Product Sales	407-238-2310	407-238-2565	sales@unoverica.com
Administration	407-238-2960	407-238-2565	admin@unoverica.com

The latest versions of Unoverica software and documentation are located on our anonymous ftp server at <ftp://ftp.unoverica.com/pub/out/>.



Chapter **1** *Preparing for Unoverica Domain Name System Installation and Configuration*

This chapter explains how to prepare your site for the installation of Unoverica Domain Name System. It describes the software required to install and configure Unoverica Domain Name System.



Assembling the Required Software

Ensure that the prerequisite software is installed on the server before you install Unoverica Domain Name System on the server.

Prerequisite Software

Unoverica Domain Name System requires the following software:

- Standard (multiuser) Novell NetWare v3.11, v3.12 or v4.x
- Btrieve v6.10a or greater (v6.10c or greater is preferred)



To avoid Btrieve incompatibility problems with other Btrieve applications, Unoverica Domain Name System has been written to work with a range of Btrieve versions. If possible, however, you should upgrade to the latest version of Btrieve to maintain compatibility with future versions of Unoverica Domain Name System.

- TCP/IP for NetWare version 2.02m or greater
- Novell CLIB version 3.12h or greater (v3.12j or greater is preferred)



The updates to TCP/IP and CLIB must be installed on the NetWare server where you are performing the installation, or Unoverica Domain Name System will not function properly.

Identifying Versions of Prerequisite Software



From the Netware File Server:

Verify whether BTRIEVE.NLM, TCPIP.NLM and CLIB.NLM are loaded by entering the following command at the NetWare system console prompt (:):

```
:MODULES<Enter>
```

If BTRIEVE.NLM, TCPIP.NLM or CLIB.NLM are loaded you will see them in the list of modules. Make a note of the version number of each of these modules.



If any of these modules are not loaded, load them manually to get the version number.

Example:

```
:LOAD BTRIEVE<Enter>
:LOAD TCPIP<Enter>
:LOAD CLIB<Enter>
```

Compare the version numbers displayed with the version numbers listed in *Prerequisite Software* on page 1-2 to determine if an update is necessary.

Installing Prerequisite Software

The prerequisite software should be installed according to the installation instructions included with the software. The following is provided to help you locate the software.

- The Btrieve 6.10c update is located in the BTRIEVE forum on CompuServe in the file BTR610.EXE. This is a self-extracting DOS executable. The installation instructions are contained in BTR61.TXT.
- The Novell TCP/IP update is located in the NOVLIB forum in Library 8 on CompuServe in the file TCP188.EXE, or directly from Novell at <ftp://ftp.novell.com/> in the file `/pub/netwire/novlib/08/tcp188.exe`. This is a self-extracting DOS executable. The installation instructions are contained in TCP188.TXT.
- The Novell CLIB update is located in the NOVFILES forum on CompuServe in the file LIBUP6.EXE, or directly from Novell at <ftp://ftp.novell.com/> in the file `/pub/netwire/novfiles/libup6.exe`. This is a self-extracting DOS executable. The installation instructions are contained in LIBUP6.TXT.

These files are also available for download from our anonymous ftp server.



The installation of the TCP/IP and CLIB updates will require downing of the server.



Configuring Prerequisite Software - General Instructions

After the prerequisite software has been installed it must be configured.

BTRIEVE

Unoverica Domain Name System does not require Btrieve to be loaded with any parameters and will currently work with the default values. However, if you are running other Btrieve- dependent applications, you may need to load Btrieve with some parameters. Please refer to the *NetWare Installation and Operation Manual* for details.



BTRIEVE.NLM must be loaded prior to installing Unoverica Domain Name System.

Use the LOAD command to start BTRIEVE.NLM.



From the Netware File Server:

```
:LOAD BTRIEVE<Enter>
```

TCP/IP

TCP/IP uses four database files to convert internal data into more identifiable and workable names. You can inform TCP/IP of names and addresses of local nodes and networks by adding information to these files. TCP/IP finds these files in the SYS:ETC\ directory.

Unoverica Domain Name System requires two of these database files to be defined. These database files are called HOSTS and SERVICES. Only the two files required by Unoverica Domain Name System will be described here. Please refer to the *NetWare 3.12 TCP/IP Transport Supervisor's Guide* for further details.



Unoverica Domain Name System requires the HOSTS and SERVICES database files to be properly defined and will not function without them.

The HOSTS database file maps host names to IP addresses. Edit SYS:\ETC\HOSTS to be similar to the following:

- Make sure that all forms of the local host are defined.

Example:

```
127.0.0.1          localhost
204.217.177.76    novell2.unoverica.com novell2
```



Changes to the local host information will require downing of the server to take effect.



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The SERVICES database file maps service names to transport protocol/well-known port pairs. If this database does not exist in SYS:\ETC, copy the SERVICES file located in SYS:\ETC\EXAMPLE to the SYS:\ETC directory.



From a DOS Workstation:

Example:

```
F:\> COPY F:\ETC\SAMPLES\SERVICES F:\ETC\SERVICES
```



TCPIP.NLM must be loaded and bound prior to installing Unoverica Domain Name System.

Use the LOAD and BIND commands to start TCPIP.NLM. The following example refers to the above HOSTS database file.



From the Netware File Server:

Example:

```
:LOAD NE2000 PORT=300 INT=3 FRAME=ETHERNET_II NAME=IP_FRAME<Enter>
:LOAD TCPIP RIP=NO<Enter>
:BIND IP TO IP_FRAME ADDR=204.217.177.76 MASK=255.255.255.0<Enter>
```

Configuring Prerequisite Software - Domain Name System Specific Instructions

- Add the following lines to SYS:\ETC\SERVICES if they do not exist:

Example:

```
domain      53/udp
domain      53/tcp
```



Upgrading Previous Installations of Unoverica Domain Name System

If this is a new installation of Unoverica Domain Name System, move on to Chapter 2, “Installing Unoverica Domain Name System”.



Follow this procedure if you have an existing installation of Unoverica Domain Name System prior to Version 1.07.



If you are upgrading from a previous version of Unoverica Domain Name System, you must first unload all the modules, *if they are running on the server where you are performing the installation*. Please follow the instructions in *Operation-UCDSTOP* on page 4-1.



From a DOS Workstation:

1. Move the configuration files from SYS:\ETC to SYS:\USR\LIB\NAMED.

The location of the configuration files has changed in order to avoid potential conflicts with NetWare configuration files.

You must *move* the file SYS:\ETC\NAMED.CFG and all of the files referenced in that file either directly or indirectly.

Example:

```
F:\> MOVE SYS:\ETC\NAMED.CFG SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\NAMED.LOC SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\ROOT.CAC SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\NAMED.FWD SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\NAMED.REV SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\NAMED000 SYS:\USR\LIB\NAMED
F:\> MOVE SYS:\ETC\NAMED001 SYS:\USR\LIB\NAMED
```

2. Modify default directory in SYS:\USR\LIB\NAMED\NAMED.CFG.

- Open SYS:\USR\LIB\NAMED\NAMED.CFG in a text editor.
- Find the line beginning with the “directory” keyword.
- Modify the line as follows:

```
directory /usr/lib/named
```
- Save the change and exit.



Chapter **2** *Installing Unoverica Domain Name System*

This chapter tells you how to install Unoverica Domain Name System on a NetWare server and how to remove the product. In addition, this chapter discusses how to install additional licenses to Unoverica Domain Name System.



Installing Unoverica Domain Name System

Unoverica Domain Name System is installed in the SYSTEM directory on the SYS: volume of your NetWare server. During the installation, the server software is installed on your NetWare Server.

The following sections explain installation requirements and discuss all the different methods of installing Unoverica Domain Name System.

Installation Requirements



If you are upgrading from a previous version of Unoverica Domain Name System, you must first unload all the modules, *if they are running on the server where you are performing the installation*. Please follow the instructions in *Operation-UCDSTOP* on page 4-1.

Installation - General Instructions

Load installation Media

If you are installing from a floppy diskette:



DOS must be present on the file server to install from a floppy drive. If the *REMOVE DOS* or *SECURE CONSOLE* commands have been executed, the fileserver must be restarted without these commands.



From the Netware File Server:

- Insert the diskette into the floppy drive on the file server.

If you are installing from a network drive:



The temporary network directory must be accessible from the file server. If the *SECURE CONSOLE* command has been executed, and the temporary directory is not already in the path, the fileserver must be restarted without this command.



From a DOS Workstation:

- Download UCD.EXE into a temporary network directory on the target file server.
- Execute UCD.EXE to extract files.



Run Installation Utility

The installation screens differ according to the NetWare version installed on your server. Proceed with the installation by referring to the following sections:

If you are installing on...	See...
NetWare v3.1x	"Installing on NetWare v3.1x" on page 2-5
NetWare v4.x	"Installing on NetWare v4.x" on page 2-4



Installing on NetWare v4.x

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Follow this procedure after you have completed the steps described in “Load Installation Media” on page 2-2.



From the Netware File Server:

1. At the local server, load INSTALL.

Enter the following command at the NetWare system console prompt (:):

```
:load install
```

The INSTALL program displays the Installation Options menu.

2. Select *Product options* from the Installation Options menu.

The Other Installation Actions window is displayed.

3. Select *View/Configure/Remove installed products* from the Other Installation Actions menu.

Complete the rest of the installation by following Steps 3 through 6 in the following section, “Installing on NetWare v3.1x”.



Installing on NetWare v3.1x

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Follow this procedure after you have completed the steps described in “Load Installation Media” on page 2-2.



From the Netware File Server:

1. At the local server, load INSTALL.

Enter the following command at the NetWare system console prompt (:):

```
:load install
```

The INSTALL program displays the Installation Options menu.

2. Select *Product Options* from the Installation Options menu.

The Currently Installed Products window is displayed, showing the products that are currently installed.

3. Press <Insert> to install a new product.

A window is displayed, prompting you for the path to the software you want to install.

4. Enter the pathname.

A window is displayed, prompting you for the path to the software you want to install.

5. Enter the pathname.

The Available Options window is displayed in the Unoverica UCD Installation screen.

6. Select *Install Product* from the Available Options menu.



Installing Licenses for Domain Name System

At the end of the installation procedure, a list of previously installed licenses appears in the Current Licenses window.

Deleting a License

To delete an installed license, highlight the license and press .

Modifying a License



Follow these steps to modify an installed license for Domain Name System:

1. **Select *Domain Name System*.**

The License Value Form window appears.

2. **Modify the license information in the form.**

3. **Press <ESC> and save changes.**

Installing a License



Follow these steps to install a license for Domain Name System:

1. **Press <Ins>.**

The Available Licenses window appears.

2. **Select *Domain Name System*.**

The License Value Form window appears.

3. **Enter the license information into the form.**



You must enter *all* of the license information *exactly* as it appears in the license information sent to you from Unoverica Corporation.



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4. Press <ESC> and save changes.

The license you entered will appear in the Current Licenses window.



Chapter 3 Configuration

This chapter provides instructions for setting up Unoverica Domain Name System.

Unoverica Domain Name System is configured by editing configurations files. Any text editor may be used for this purpose. The format of the configuration files is very similar the format used by the Berkley Internet Name Domain (BIND) server software.

This chapter is not intended to be a comprehensive explanation of DNS or BIND. Please refer to a book such as *DNS and BIND in a Nutshell (Albitz and Liu, O'Reilly & Associates)* for detailed documentation. References to this book appear through this chapter, e.g. (See *D&B*, pg. 123).

Location of Configuration Files

The configuration files for Unoverica Domain Name System are located in the SYS:USR\LIB\NAMED directory.

Description of Configuration Files

NAMED.LOC

This database file contains records to cover the loopback network, namely 127.0.0. (See *D&B*, pp. 64-65).

In the following example, Unoverica Domain Name System is installed on a system named host.domain.com, and the e-mail address of the system administrator is supervisor@domain.com.

Your NAMED.LOC file should look similar to the following:

```
;named.loc
@          IN      SOA          host.domain.com. supervisor.domain.com. (
1          ; Serial
3600      ; Refresh 3 hours
1800      ; Retry 1 hour
3600000   ; Expire 1000 hours
86400)    ; Minimum 24 hours
          IN      NS          host.domain.com.
1          IN      PTR         localhost.
```



The dots (".") at the end of the domain names are required. Also, the e-mail address email.maildomain.com. cannot have an at-sign ("@") in it, as this is a reserved character.

ROOT.CAC

This database file contains records pointing to the name servers for the root domain. (See *D&B*, pp. 65-67).

NAMED.CFG

This initialization file contains records indicating where the database are located, and the names of the database files. (See *D&B*, pp. 67-68).

Your NAMED.CFG file should look similar to the following:

```
;named.cfg
directory /usr/lib/named
;type      domain                source      backup
;-----
primary    0.0.127.IN-ADDR.ARPA         named.loc
cache      .                               root.cac
```

Basic Configuration

Unoverica Domain Name System can be configured to service any number of domains as a primary server, secondary server, or both.

The difference between a primary and secondary name server is where the server gets its data. A primary name server reads its data from files. A secondary server gets its data over the network from another name server.

Proceed with configuration by referring to the following sections:

To configure server as a...	See...
Primary	"Configuring a Primary DNS" on page 3-5
Secondary	"Configuring a Secondary DNS" on page 3-4



Configuring a Secondary DNS

In the following example, Unoverica Domain Name System is configured as a secondary name server for the domain.com domain and the 222.221.220.0 network. This server will get its zone data from the server at 222.221.220.1. Backup copies of the zone data will be saved in the files NAMED000 and NAMED001.

Edit NAMED.CFG to look similar to the following:

```
;named.cfg
directory /usr/lib/named
;type      domain                source      backup
;-----
secondary domain.com          222.221.220.1  domain.fwd
secondary 220.221.222.IN-ADDR.ARPA 222.221.220.1  domain.rev
primary    0.0.127.IN-ADDR.ARPA    named.loc
cache      .                        root.cac
```



The backup file name must conform to the "DOS 8.3" naming convention. Directory names must be delimited with the forward slash ("/") character.



Configuring a Primary DNS

In the following example, Unoverica Domain Name System is configured as a primary name server for the domain.com domain and the 222.221.220.0 network. The name of this server is host.domain.com. The address of this server is 222.221.220.1. There is a secondary server named host2.domain.com at 222.221.220.2. host2.domain.com is also addressed by the alias www.domain.com. All mail to this domain, and to any machines in this domain is sent to mail.domain.com at 222.221.220.4. If that machine is down, mail is accepted by an external machine called mail.provider.com until mail.domain.com is available.

- Create a file called DOMAIN.SOA to look similar to the following:

```
;domain.soa
@           IN      SOA      host.domain.com. supervisor.domain.com. (
                1           ; Serial
                3600        ; Refresh 3 hours
                1800        ; Retry  1 hour
                3600000     ; Expire 1000 hours
                86400)     ; Minimum 24 hours
                IN      NS      host.domain.com.
                IN      NS      host2.domain.com.
```

- Create a file called DOMAIN.FWD to look similar to the following:

```
;domain.fwd
$INCLUDE domain.soa

@           IN      A        222.221.220.1
           IN      MX      10    mail
           IN      MX      20    mail.provider.com.

host       IN      A        222.221.220.1
           IN      MX      10    mail
           IN      MX      20    mail.provider.com.

host2     IN      A        222.221.220.2
           IN      MX      10    mail
           IN      MX      20    mail.provider.com.

www       IN      CNAME    host2

mail      IN      A        222.221.220.4
           IN      MX      10    mail
           IN      MX      20    mail.provider.com.
```



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- Create a file called DOMAIN.REV to look similar to the following:

```
;domain.rev
$INCLUDE domain.soa
1          IN      PTR      host.domain.com.
2          IN      PTR      host2.domain.com.
4          IN      PTR      mail.domain.com.
```

- Edit NAMED.CFG to look similar to the following:

```
;named.cfg
directory /usr/lib/named
;type     domain          source      backup
;-----
primary domain.com       domain.fwd
primary 220.221.222.IN-ADDR.ARPA domain.rev
primary  0.0.127.IN-ADDR.ARPA  named.loc
cache    .                      root.cac
```



The source file name must conform to the "DOS 8.3" naming convention. Directory names must be delimited with the forward slash ("/") character.



Chapter **4** *Operation*

UCDSTART

Use UCDSTART to start the product.



From the Netware File Server:

Example:

```
:UCDSTART <Enter>
```

UCDSTOP

Use UCDSTOP to stop the product.



From the Netware File Server:

Example:

```
:UCDSTOP <Enter>
```



Chapter **5** *Troubleshooting*

Solving Common Problems

This section lists common problems that you may come across with Unoverica Domain Name System and provides steps that you can take to solve the problems.

Loading Modules

Loader cannot find public symbol: btrvID

Load file referenced undefined public variable.

Module XXXXXXXX.NLM NOT loaded

Load BTRIEVE before loading any Unoverica Domain Name System.



BTRIEVE is not auto-loaded because it is sometimes loaded with additional parameters.



Chapter **6** *Bugs*

Fixed Bugs

This is the list of fixed bugs in Unoverica Domain Name System. If you have questions or comments about one of these bugs, please refer to the number associated with the description.

- 105 V1.07 was not returning the correct values for Refresh and Minimum TTL in SOA records. This has been fixed in V1.07a.

Known Bugs

This is the list of known bugs in Unoverica Domain Name System. If you have questions or comments about one of these bugs, please refer to the number associated with the description.