



# UNOVERICA

BOOTP/DHCP Server

Version 1.07

For Novell NetWare®

**Administration Guide**

*disclaimer*

Unoverica Corporation makes no representations or warranties with respect to the contents or use of this manual, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Unoverica Corporation reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Unoverica Corporation makes no representations or warranties with respect to any Unoverica software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Unoverica Corporation reserves the right to make changes to any and all parts of Unoverica software, at any time, without obligation to notify any person or entity of such changes.

*trademarks*

Unoverica, and the U-design are trademarks of Unoverica Corporation.

A complete list of trademarks and their respective owners appears in "Trademarks," directly before the index.

**Copyright © 1993-1996 Unoverica Corporation. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.**

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

**Unoverica BOOTP/DHCP Server Administration Guide  
April 1996  
Part Number UCBND**



## **Table of Contents**

### **About This Guide**

Content Overview .....	v
Chapters .....	v
Appendixes .....	v
Conventions .....	vi
Typographical Conventions .....	vi
Terminology .....	vii
Symbolic Conventions .....	vii
Additional Reading .....	viii
Contacting Unoverica Corporation .....	ix

### **1 Preparing for Unoverica BOOTP/DHCP Server Installation and Configuration**

Assembling the Required Software .....	1-2
Prerequisite Software .....	1-2
Identifying Versions of Prerequisite Software .....	1-2
Installing Prerequisite Software .....	1-3
Configuring Prerequisite Software - General Instructions .....	1-4
Configuring Prerequisite Software - BOOTP/DHCP Server Specific Instructions .....	1-5
Upgrading Previous Installations of Unoverica Domain Name System .....	1-6

### **2 Installing Unoverica BOOTP/DHCP Server**

Installing Unoverica BOOTP/DHCP Server .....	2-2
Installation Requirements .....	2-2
Installation - General Instructions .....	2-2
Installing on NetWare v4.x .....	2-4
Installing on NetWare v3.1x .....	2-5
Installing Licenses for BOOTP/DHCP Server .....	2-6

### **3 Configuration**

Location of Configuration File .....	3-1
Description of Configuration File .....	3-1
Basic Configuration .....	3-2

### **4 Operation**



## **5 Troubleshooting**

Solving Common Problems .....	5-1
Loading Modules .....	5-1

## **6 Bugs**

Fixed Bugs .....	6-1
Known Bugs .....	6-1



## ***About This Guide***

This is an administration guide for Unoverica BOOTP/DHCP Server Version 1.07. It is intended for system administrators or others who must install, configure, and maintain Unoverica BOOTP/DHCP Server 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.

<b>For</b>	<b>Telephone</b>	<b>Fax</b>	<b>Electronic Mail</b>
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 BOOTP/DHCP Server Installation and Configuration*

This chapter explains how to prepare your site for the installation of Unoverica BOOTP/DHCP Server. It describes the software required to install and configure Unoverica BOOTP/DHCP Server.



## Assembling the Required Software

Ensure that the prerequisite software is installed on the server before you install Unoverica BOOTP/DHCP Server on the server.

### Prerequisite Software

Unoverica BOOTP/DHCP Server 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 BOOTP/DHCP Server 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 BOOTP/DHCP Server.

- 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 BOOTP/DHCP Server 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 BOOTP/DHCP Server 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 BOOTP/DHCP Server.

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



Unoverica BOOTP/DHCP Server 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.



# UNOVERICA BOOTP/DHCP Server

---

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 BOOTP/DHCP Server.

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 - BOOTP/DHCP Server Specific Instructions

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

*Example:*

```
domain      53/udp
domain      53/tcp
bootps      67/udp
bootpc      68/udp
```



## Upgrading Previous Installations of Unoverica Domain Name System

If this is a new installation of Unoverica BOOTP/DHCP Server, move on to Chapter 2, "Installing Unoverica BOOTP/DHCP Server".



Follow this procedure if you have an existing installation of Unoverica BOOTP/DHCP Server prior to Version 1.07.



If you are upgrading from a previous version of Unoverica BOOTP/DHCP Server, 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-UCBSTOP* on page 4-1.



*From a DOS Workstation:*

1. **Move the configuration file from SYS:\ETC to SYS:\USR\LIB\BOOTP.**

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

You must *move* the file SYS:\ETC\BOOTPTAB.

*Example:*

```
F:\> MOVE SYS:\ETC\BOOTPTAB SYS:\USR\LIB\BOOTP
```



## Chapter **2** *Installing Unoverica BOOTP/DHCP Server*

This chapter tells you how to install Unoverica BOOTP/DHCP Server on a NetWare server and how to remove the product. In addition, this chapter discusses how to install additional licenses to Unoverica BOOTP/DHCP Server.



## Installing Unoverica BOOTP/DHCP Server

Unoverica BOOTP/DHCP Server 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 BOOTP/DHCP Server.

### Installation Requirements



If you are upgrading from a previous version of Unoverica BOOTP/DHCP Server, 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-UCBSTOP* 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 UCB.EXE into a temporary network directory on the target file server.
- Execute UCB.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:

<b>If you are installing on...</b>	<b>See...</b>
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

123

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

123

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 UCB Installation screen.

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



## Installing Licenses for BOOTP/DHCP Server

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 <Del>.

### Modifying a License



Follow these steps to modify an installed license for BOOTP/DHCP Server:

1. **Select *BOOTP/DHCP Server*.**

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 BOOTP/DHCP Server:

1. **Press <Ins>.**

The Available Licenses window appears.

2. **Select *BOOTP/DHCP Server*.**

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.



## UNOVERICA BOOTP/DHCP Server

---

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 BOOTP/DHCP Server.

Unoverica BOOTP/DHCP Server is configured by editing a configuration file. Any text editor may be used for this purpose. The format of the configuration files is very similar the format used by Unix BOOTPD server software.

### **Location of Configuration File**

The configuration file for Unoverica BOOTP/DHCP Server is located in the SYS:\USR\LIB\BOOTP directory.

### **Description of Configuration File**

#### **BOOTPTAB**

This database file contains records mapping a hardware address to a set of parameters.

Blank lines and lines beginning with the pound (“#”) character are treated as comments.



## Basic Configuration

In the following example, Unoverica DHCP/BOOTP Server is configured to service four hosts on network 222.221.220.0. These two hosts use a subnet mask of 255.255.255.0, domain name services at 222.221.220.2, 213.212.211.1 and 204.203.202.1, and a default gateway of 222.221.220.1. The address for host1 is obtained from DNS.

Edit BOOTPTAB to look similar to the following:

```
#bootptab

#First, we define a global entry which specifies the stuff every
#host uses.
.global.dummy:\
    :ht=ethernet:\
    :sm=255.255.255.0:\
    :ds=222.221.220.2 213.212.211.1 204.203.202.1:\
    :gw=222.221.220.1:

#Next, we define individual entries for each host.
host1.domain.com:\
    :tc=.global.dummy:ha=0020AF26CA9C:
.host2.domain.com:\
    :tc=.global.dummy:ha=0020AF1205FE:ip=222.221.220.66:
```



## Chapter **4** *Operation*

### **UCBSTART**

Use UCBSTART to start the product.



*From the Netware File Server:*

*Example:*

```
:UCBSTART <Enter>
```

### **UCBSTOP**

Use UCBSTOP to stop the product.



*From the Netware File Server:*

*Example:*

```
:UCBSTOP <Enter>
```



## Chapter **5** *Troubleshooting*

### **Solving Common Problems**

This section lists common problems that you may come across with Unoverica BOOTP/DHCP Server 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 BOOTP/DHCP Server.



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 BOOTP/DHCP Server. If you have questions or comments about one of these bugs, please refer to the number associated with the description.

### **Known Bugs**

This is the list of known bugs in Unoverica BOOTP/DHCP Server. If you have questions or comments about one of these bugs, please refer to the number associated with the description.