



# INSTALLATION GUIDE

## LINUX FEDORA 10



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## TurboCap Linux Fedora 10 Installation Guide

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## Introduction

Welcome to the Riverbed TurboCap Gigabit Ethernet Packet Capture system. This Installation Guide will guide you through the procedure to install both the hardware and the software components that are part of the TurboCap product on a Linux Fedora 10 system.

## Requirements

The minimum requirements to install and run the TurboCap Software are:

- Pentium-D (dual core) processor or multiple CPUs (SMP), 2.8GHz
- 2GB RAM
- 50MB free disk space on the hard drive plus additional space for capture (trace) file.  
Disk performance is key to full-rate packet dump to disk.
- PCIe 4x or 8x slot. 8 lanes are required for 4-port board.
- Linux Fedora 10 operating system. The software supports both 32- and 64-bit (AMD64/EM64T) operating systems.

## What is in the Box

- One TurboCap board
- This Installation Guide for Linux Fedora 10.

## Download the Installation Software Disk Image

- The latest Linux Installation Disk ISO image is located at:  
<http://www.cacotech.com/downloads.html>
- **Once your download is complete burn the image onto a Blank CD.**

## What is on the Disk Image

The TurboCap Software Distribution Disk Image for Linux Fedora 10 contains:

- The TurboCap kernel module and software
- This Installation Guide for Linux Fedora 10
- The TurboCap User's Guide
- The TurboCap developer's kit, for developers interested in directly accessing the features of the TurboCap board from their applications. The developer's kit is installed as part of the software installation.

## Hardware Installation

This section will describe how to install the TurboCap board on a PC. To install the board, follow these steps:

1. Power off your PC and unplug the power cable.
2. Open the PC chassis and locate an available PCIe 4x or 8x slot.  
NOTE: most PCs have a PCIe 16x slot dedicated for graphics cards, called PEG (PCI Express Graphics). **Do not** install the TurboCap board in such a slot; these slots do not support 4x or 8x speeds when not used with a graphics card.
3. Insert the TurboCap board into the slot securing it in place.
4. Close the chassis, connect the power cable, and restart the system.

## Driver Installation (Linux Fedora 10)

To install the software, follow these steps:

1. Power on your PC.
2. Insert the TurboCap Software Distribution CD for Linux into your CD drive.
3. The CD-Rom should appear automatically on the desktop and gets mounted under

`/media/TurboCap_Linux`. If it does not, please open a command shell as root and mount it with the following commands

```
[root@localhost test]# mkdir /media/TurboCap_Linux
```

```
[root@localhost test]# mount /dev/sr0 /media/TurboCap_Linux
```

4. Open a command shell as root and go to the `rpms` folder of the CD

```
[root@localhost test]# cd /media/TurboCap_Linux/rpms
```

## 32BIT OS

### 5a. Enter the i686 folder

```
[root@localhost test]# cd i686
```

### 6a. Install the new kernel and kernel-firmware

```
[root@localhost test]# rpm -ivh kernel-firmware-<version>.preemptive.kernel.kt.fc10.i686.rpm
```

```
Preparing... ##### [100%]
```

```
1:kernel-firmware ##### [100%]
```

```
[root@localhost test]# rpm -ivh kernel-<version>.preemptive.kernel.kt.fc10.i686.rpm
```

```
Preparing... ##### [100%]
```

```
1:kernel ##### [100%]
```

### 7a. Install the kernel module for turbocap

```
[root@localhost test]# rpm -ivh turbocap-module-<version>.i386.rpm
```

```
Preparing... ##### [100%]
```

```
1:turbocap-module- ##### [100%]
```

### 8a. Install the turbocap user level components and libpcap for turbocap

```
[root@localhost test]# rpm -ivh turbocap-<version>.i386.rpm libpcap-1.0-<version>.i386.rpm
```

```
Preparing... ##### [100%]
```

```
1:libpcap ##### [ 50%]
```

```
2:turbocap ##### [100%]
```

Go to step 9

## 64BIT OS

### 5b. Enter the x86\_64 folder

```
[root@localhost test]# cd x86_64
```

### 6b. Install the new kernel and kernel-firmware

```
[root@localhost test]# rpm -ivh kernel-firmware-<version>.preemptive.kernel.kt.fc10.
x86_64.rpm
Preparing...                               ##### [100%]
1:kernel-firmware                          ##### [100%]
[root@localhost test]# rpm -ivh kernel-<version>.preemptive.kernel.kt.fc10.x86_64.
rpm
Preparing...                               ##### [100%]
1:kernel                                    ##### [100%]
```

### 7b. Install the kernel module for turbocap

```
[root@localhost test]# rpm -ivh turbocap-module-<version>.x86_64.rpm
Preparing...                               ##### [100%]
1:turbocap-module-..                       ##### [100%]
```

### 8b. Install the turbocap user level components and libpcap for turbocap

```
[root@localhost test]# rpm -ivh turbocap-<version>.x86_64.rpm libpcap-1.0-<version>.
x86_64.rpm
Preparing...                               ##### [100%]
1:libpcap                                  ##### [ 50%]
2:turbocap                                  ##### [100%]
```

(common steps to 32BIT and 64BIT)

9. Reboot your machine and make sure to choose the kernel named Fedora (<version>.preemptive.kernel.kt.fc10.<architecture>) (this is the default choice).
10. The driver is loaded automatically at boot time

You can verify that the board is recognized as follows

```
[root@localhost test]# tcscandev -v
Device /dev/tc0: MAC 00:15:17:3D:EF:1C
Device /dev/tc1: MAC 00:15:17:3D:EF:1D
```

**NOTE:** The module can be unloaded and reloaded with the scripts `tcunload.sh` and `tcload.sh`

## Developer's Resources Installation

Riverbed provides a developer's kit with everything you need for using a TurboCap board in your application for capturing Ethernet packets:

- Header files (both 32- and 64-bit lib files are provided)
- HTML API documentation
- A ready-to-compile set of example programs that shows how to configure the board and capture packets

The TurboCap Developer's kit is installed in `/usr/share/turbocap` and includes the samples and the HTML documentation for the API. The headers and shared libraries are installed in `/usr/include` and `/usr/lib`.



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