How to use backup & restore routers using TFTP

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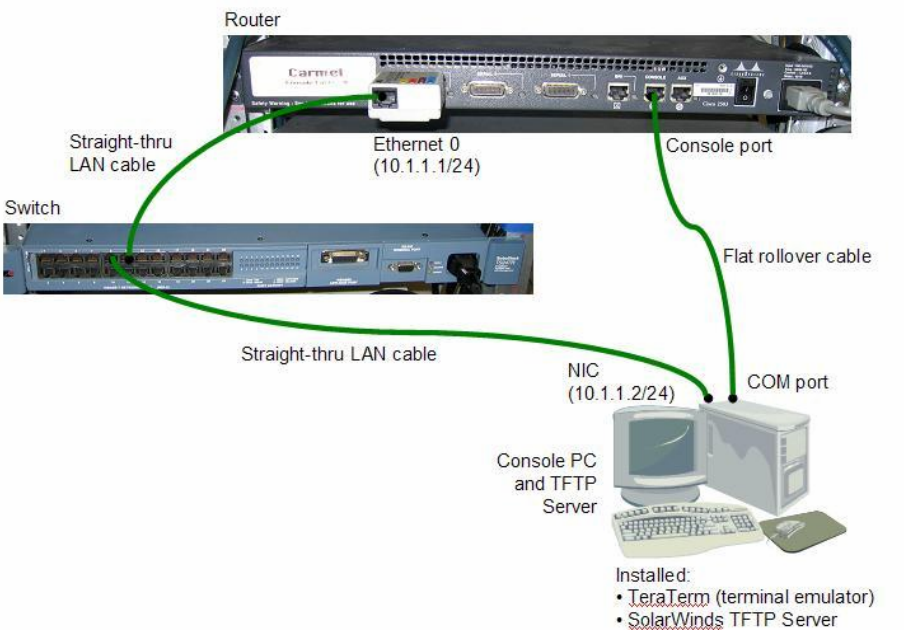
Step-by-Step instructions for backing up and restoring configuration files with TFTP.

IOS can copy files to and from a TFTP server. TFTP stands for trivial File Transfer Protocol and is a way to transfer files over a network. In this case we will use the SolarWinds TFTP server software on the console PC to act as the TFTP server.

The following instructions show how to backup and restore files. The example shows a particular configuration which has the TFTP server running on the console PC. This is for this example only as the TFTP server could be elsewhere on the network.

Step 1 – Connect console (and TFTP server) to the router

- Make the following connections



- Insure TeraTerm terminal emulation software is installed on the console PC.
  http://hp.vector.co.jp/authors/VA002416/teraterm.html

- Configure TeraTerm to connect using the serial COM 1 port with 9600 baud, no parity, 8 databits, 1 stop bit, no flow control. Other COM ports can be used as well if COM 1 is not available.
- Insure SolarWinds TFTP server is installed and running.
  http://www.solarwinds.net/FreeTools.htm

Step 2 – Configure the interfaces

- Note: for this example we will configure a 10.1.1.0/24 network for the router and TFTP server to use for file transfer. This does not have to be this specific network for TFTP transfers and other correctly configured networks can be used instead.
- On the Console PC (which is also the TFTP server) configure the LAN interface as follows:

```
IP 10.1.1.2
Subnet mask: 255.255.255.0
Default gateway: 10.1.1.1
```

- On the router, configure the Ethernet interface.

```
simms#conf t
Enter configuration commands, one per line.  End with
CNTL/Z.
simms(config)#interface ethernet 0
simms(config)#ip address 10.1.1.1 255.255.255.0
simms(config)#no shut
simms(config)#end
```

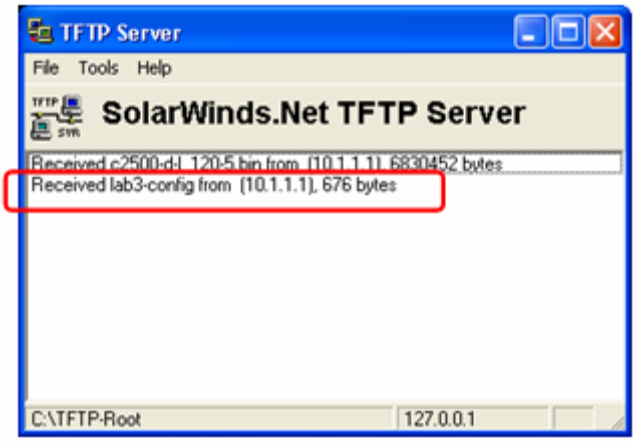
- At this time it is a good idea to check all interfaces with the ping command on the router and on the Console PC. From the router ping the PC and from the PC ping the router.
- Make sure the TFTP server is running on the Console PC.

Step 3 – Backup a configuration file to the TFTP server

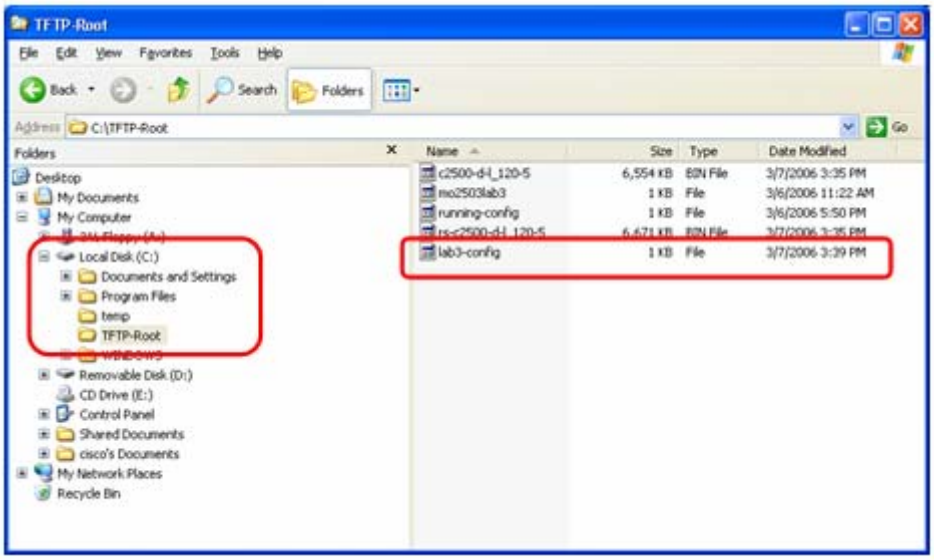
- Use the copy command to back up running-config or startup-config file. In this example we will backup the startup-config file and name it lab3-config on the TFTP server:

```
simms#
simms#copy startup-config tftp
Address or name of remote host []? 10.1.1.2
Destination filename [startup-config]? lab3-config
!!
676 bytes copied in 0.240 secs
simms#
```

- Look at SolarWinds TFTP server to verify the transfer. In this example the startup-config file on the router was copied to a file named lab3-config on the TFTP server:



- The files on the TFTP server (Console PC) are placed in the TFTP-Root directory on the C: drive by default. Use Windows Explorer to view and manage these files as needed. Best practices include adding your initials and dates to the names of these files.



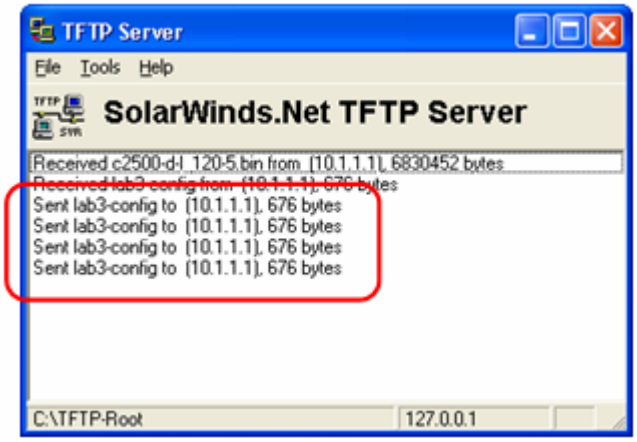
Step 4 - Restore a configuration file from the TFTP server

- Use the copy command as follows to restore the startup-config file:

```
oops#copy tftp startup-config
Address or name of remote host []? 10.1.1.2
Source filename []? lab3-config
```

```
Destination filename [startup-config]?
Accessing tftp://con/lab3-config...
Loading lab3-config from 10.1.1.2 (via Ethernet0): !
[OK - 676/1024 bytes]
```

- Look at SolarWinds TFTP server to verify it sent the file. In this example we transferred the file named lab3-config on the TFTP server back to startup-config file on the router. Note, this overwrites the file on the router.



- At this point you can view the new startup configuration file using `show startup-config` to insure it is what you wanted.
- Note the copy command could just as easily be used to backup or restore other configuration files such as running-config. It is also capable of backing up and restoring image files in flash.