

SCOPSERV
INTERNATIONAL INC.

ScopTEL™ IP PBX Software
DHCP Server Configuration

Network Module - ifconfig

- A newly installed server uses DHCP to get an IP address from a DHCP server on the network so make sure the eth0 interface is connected to the network so the server can get an IP address.
- Before you can login to the server you must know the IP address of at least one physical interface.
- From the Linux console login prompt, enter username 'root' omitting any quotation marks.
- From the password prompt enter the default root password 'scopserv' omitting any quotation marks.
- Once you are successfully logged as root type the command 'ifconfig' to determine at least one eth interface .
- In this example the eth0 IP address is 192.168.192.60 Also notice that the HWaddr is the MAC address of the eth0 interface.

```
login as: root
root@192.168.192.60's password:
Last login: Mon Jul 16 13:31:19 2012 from 192.168.192.55
[root@virtualbox1253 ~]# ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:0E:20:B0
          inet addr:192.168.192.60  Bcast:192.168.192.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1781 errors:0 dropped:0 overruns:0 frame:0
          TX packets:824 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:225143 (219.8 KiB)  TX bytes:348620 (340.4 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:5493 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5493 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:359483 (351.0 KiB)  TX bytes:359483 (351.0 KiB)

[root@virtualbox1253 ~]# █
```



Network Module – system-config-network

- If there is no DHCP server on the network the server will not get an IP address.
- Using the command 'system-config-network' omitting any quotes an IP address can be set statically and then used to login to the GUI.



```
[root@virtualbox1253 ~]# system-config-network_
```

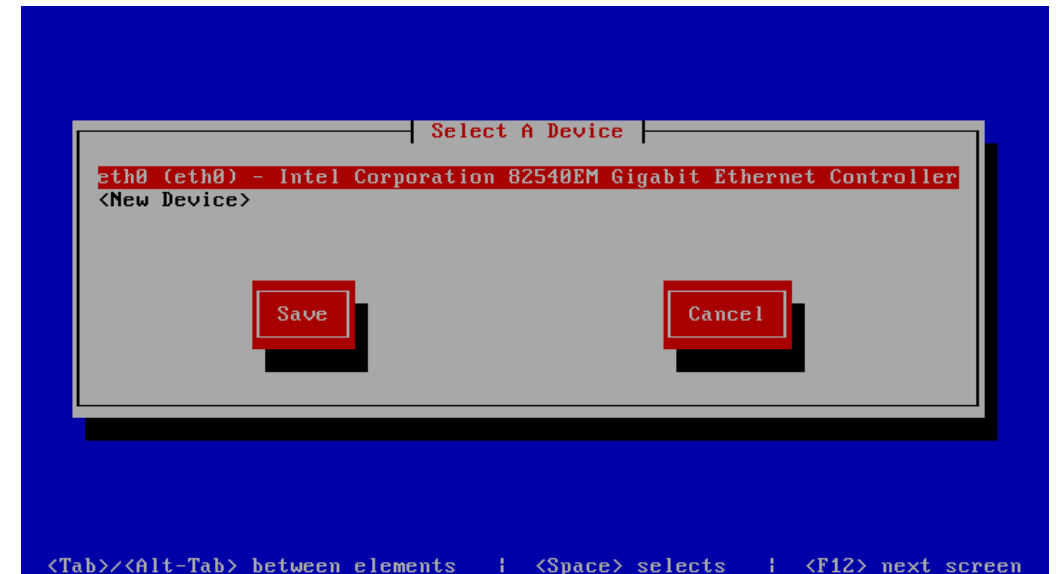


Network Module – system-config-network

Use the tab key on the keyboard to select Edit Devices

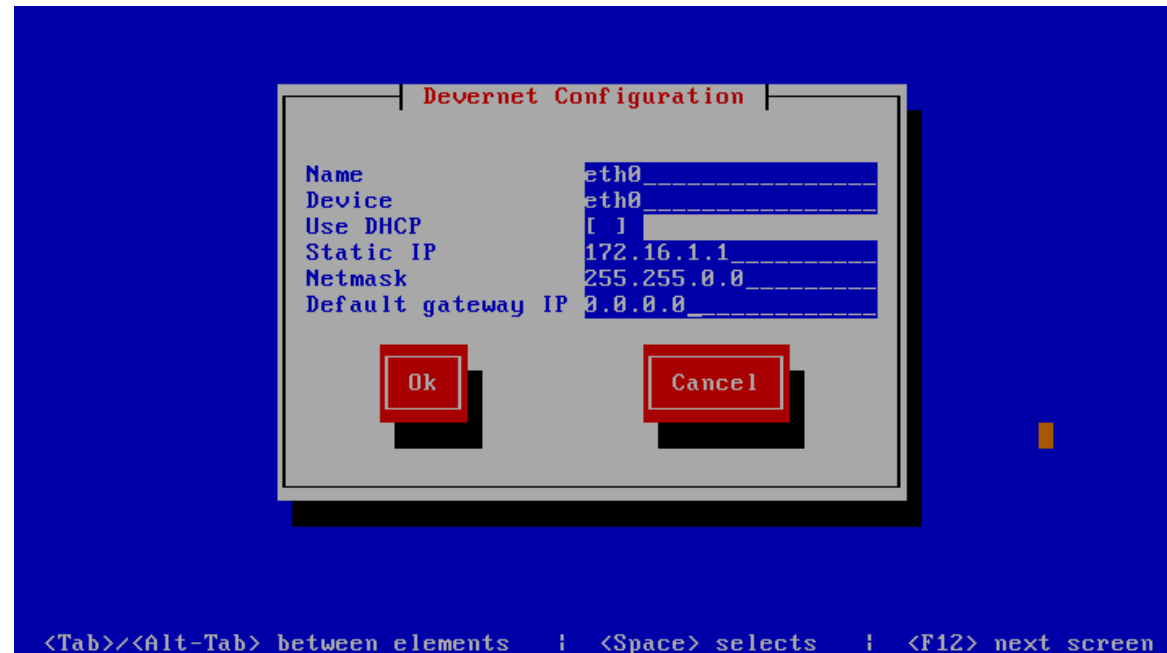


Use the tab key on the keyboard to select eth0 and press enter



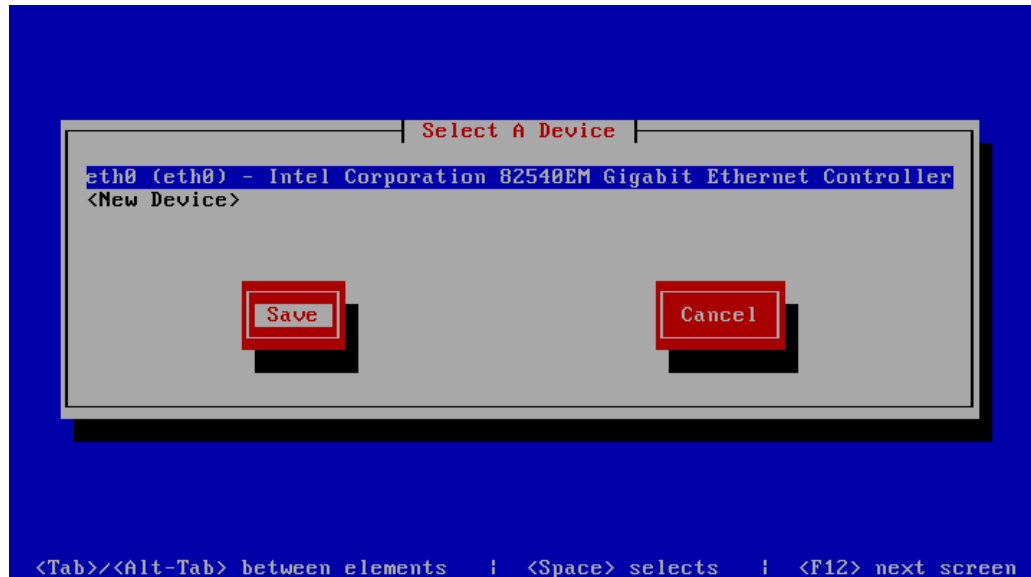
Network Module – system-config-network

- Use the tab key on the keyboard to select elements.
- Use the space bar to uncheck or check DHCP.
- Use the keyboard to enter a Static IP and Netmask for this local server as in this example using the IP address table from the System Networking Lab – Table 1
- Use the tab key to select Ok.
- Press Enter when finished.



Network Module – system-config-network

- Use the tab key on the keyboard to select Save
- Press Enter when finished



- Use the tab key on the keyboard to select Save&Quit
- Press Enter when finished



Server Module – service network restart

From the root prompt type 'service network restart' omitting any quotes to restart the network with the new static IP address.



```
[root@virtualbox1253 ~]# service network restart_
```



Network Module – Web GUI Login

- Once logged into the GUI the eth1 interface must be configured in order to enable routing.
- The ifconfig command displays the MAC address of eth1 which is needed to add another network interface to the system.
- The eth1 MAC address in this example is 00:E0:81:D8:5D:BD.

```
login as: root
root@192.168.192.65's password:
Last login: Tue Jul 17 13:10:05 2012 from 192.168.100.103
[root@demo ~]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:E0:81:D8:5D:BC
          inet addr:192.168.100.1  Bcast:192.168.100.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:226 errors:0 dropped:0 overruns:0 frame:0
          TX packets:317 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:119217 (116.4 KiB)  TX bytes:296051 (289.1 KiB)
          Interrupt:169 Memory:f4080000-f40a0000

eth1      Link encap:Ethernet  HWaddr 00:E0:81:D8:5D:BD
          inet addr:192.168.192.65  Bcast:192.168.192.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:183 errors:0 dropped:0 overruns:0 frame:0
          TX packets:151 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:28483 (27.8 KiB)  TX bytes:26050 (25.4 KiB)
          Interrupt:177 Memory:f4180000-f41a0000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
```



Server Module – Network LAN Configuration

- Set the Fully Qualified Domain Name (FQDN) for the local system.
- Set the network configuration as static.
- Set the DNS server information for the local system
- NOTE: The system is a fully capable DNS server and can resolve DNS for the network but a third party DNS server can also be used.
- Press Next.

The screenshot shows the 'ScopServ Initial Server Configuration Wizard' window, specifically the 'Network Configuration' step. The window is titled 'ScopServ Initial Server Configuration Wizard' and has a close button in the top right corner. The main content area is divided into three sections: 'General', 'Network Configuration (LAN)', and 'DNS Configuration'. The 'General' section has a 'Hostname' field set to '1000.scopserv.local'. The 'Network Configuration (LAN)' section has a 'Type' dropdown set to 'Fixed IP (Static)'. The 'IP Address' field is set to '172.16.1.1', the 'Subnet Mask' is '255.255.0.0', and the 'Gateway' is '0.0.0.0'. The 'DNS Configuration' section has a 'Primary' field set to '172.16.1.1' and a 'Secondary' field set to '8.8.8.8'. On the left side, there is a list of steps: 1. Introduction to ScopServ, 2. End-User License Agreement, 3. General Settings, 4. Software Registration, 5. Authentication, 6. Date and Time, 7. Network Configuration (highlighted), 8. High Availability, 9. Firewall Configuration, 10. Telephony, and 11. Summary. At the bottom, there are 'Previous' and 'Next' buttons, and the text 'Step 7 of 11' is displayed in the bottom right corner.



Network Configuration – Network Interfaces

- From the Configuration>Network>Interfaces tree edit your LAN interface.

The screenshot displays the 'Network' configuration page. At the top, there are tabs for 'Configuration', 'Interfaces', 'IP Routing', and 'Static Hosts'. The 'Interfaces' tab is active, showing a table of network interfaces. The table has columns for 'Mode', 'Type', 'IP Address', 'Subnet', 'Gateway', and 'VLAN'. One interface, 'eth0', is listed with a mode of 'LAN', type of 'Static', IP address of '172.16.1.1', and subnet of '255.255.255.0'. There is also an 'Add a new Interface' button and a search bar.

Mode	Type	IP Address	Subnet	Gateway	VLAN
LAN	Static	172.16.1.1	255.255.255.0		



Network Configuration – LAN Interface

- In this example the eth0 configuration is 1000.scopserv.local and the eth0 LAN interface is 172.16.1.1/16.
- Edit the eth interface and substitute the IP address and subnet mask and MAC address for your network requirements.
- When finished click on Save.


Network:


Configuration Interfaces IP Routing Static Hosts

Edit Interface

General

* Interface Name:
Default: eth0

* Mode : LAN

* Type : Static

* IP Address: . . .

* Subnet Mask: . . .

Gateway: . . .

Enable VLAN (802.1q) ? :

Hardware Address (MAC):

Save Copy Cancel



Network Configuration – Hostname

- In this example the hostname configuration is 1000.scopserv.local
- Edit the default Hostname and when finished click on Save.

Network:

Configuration Interfaces IP Routing Static Hosts

Configuration

General

* Hostname :

DNS Configuration

Obtain DNS server addresses from? :
Default: Custom DNS configuration

* Primary : . . .

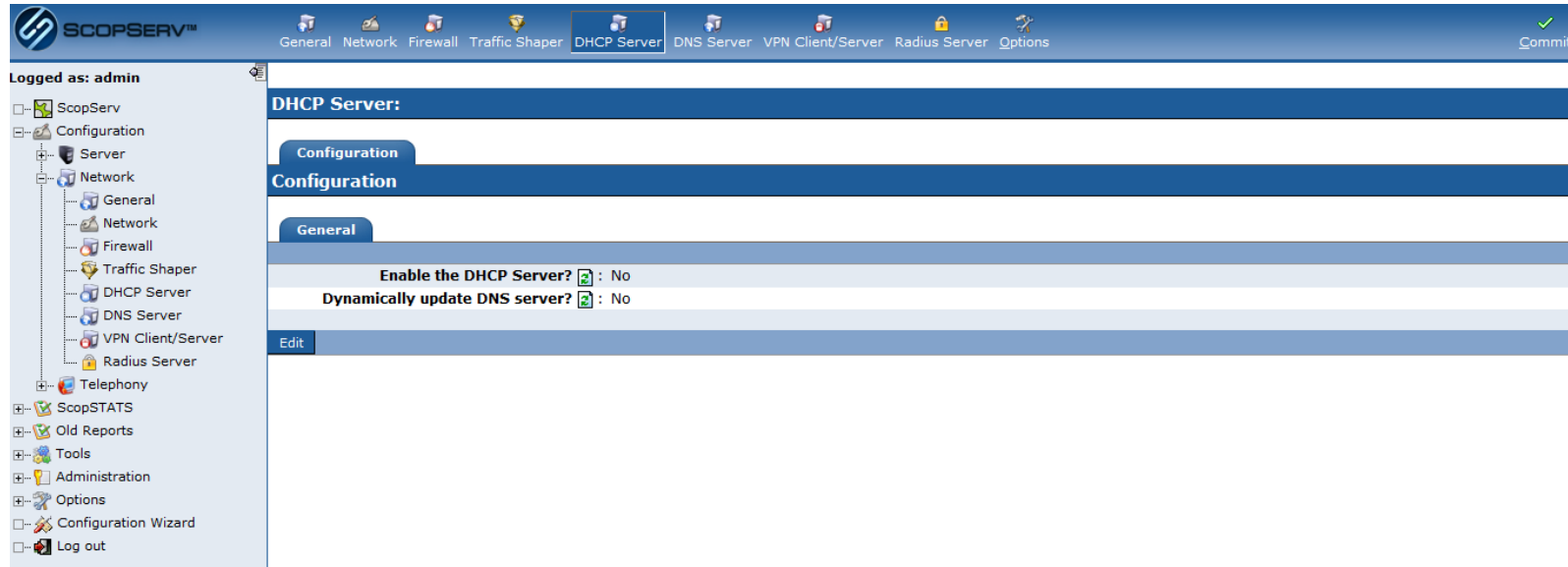
Secondary : . . .

Enable Dynamic DNS ?



Network Configuration – DHCP Subnet Configuration

- Edit the default DHCP Server configuration.



Network Configuration – DHCP Subnet Configuration

- Enable the DHCP Server.
- Check Dynamically update the DNS Server? [x].
- Choose the Domain DNS Zone scopserv.local from the dropdown list.
- Click Save when done.

ScopSERV™

General Network Firewall Traffic Shaper DHCP Server DNS Server VPN Client/Server Radius Server Options

Logged as: admin

ScopServ

Configuration

Server

Network

General

Network

Firewall

Traffic Shaper

DHCP Server

DNS Server

VPN Client/Server

Radius Server

Telephony

ScopSTATS

Old Reports

Tools

Administration

Options

Configuration Wizard

Log out

DHCP Server:

Configuration

General

Enable the DHCP Server?

Options

Restrict DHCP query to static Clients?

Allow Unknown (Dynamic) Clients? Default: True

Allow BOOTP requests? Default: True

Dynamically update DNS server?

Domain DNS Zone: scopserv.local

* Default Lease time: 1 Day(s)

* Maximum Lease time: 1 Week(s)

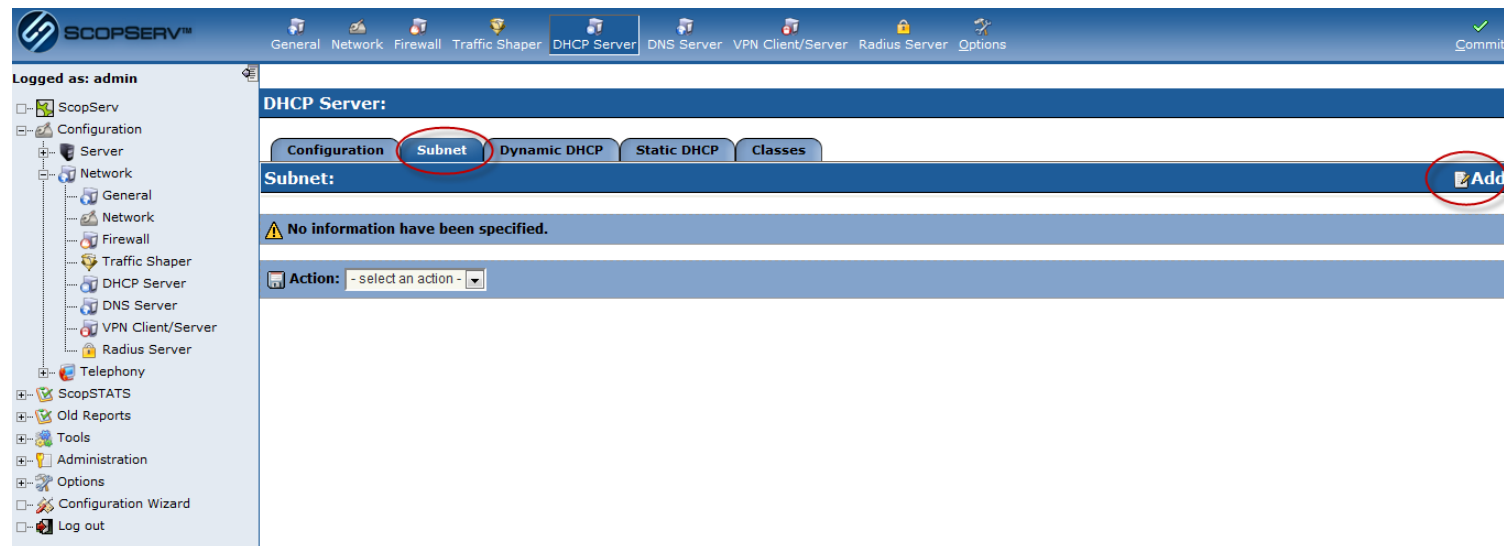
Failover / Load Balancing

Enable Failover support?

Save Cancel

Network Configuration – DHCP Subnet Configuration

- Click on the Subnet tab.
- Click on Add to add a new subnet



The screenshot displays the ScopServ web interface. The top navigation bar includes tabs for General, Network, Firewall, Traffic Shaper, DHCP Server (selected), DNS Server, VPN Client/Server, Radius Server, and Options. A 'Commit' button is visible in the top right corner. The left sidebar shows a tree view of the configuration hierarchy, with 'DHCP Server' selected under 'Network'. The main content area is titled 'DHCP Server:' and contains several tabs: Configuration, Subnet (circled in red), Dynamic DHCP, Static DHCP, and Classes. Below the tabs, there is a 'Subnet:' section with a red circle around an 'Add' button. A warning message states 'No information have been specified.' Below this, there is an 'Action:' dropdown menu with the text '- select an action -'.



Network Configuration – DHCP Subnet Configuration

- Select Interface LAN from the dropdown list.
- Using the DHCP table enter the Start and End IP address and Gateway information for the local server.
- When done click on the DNS Configuration tab.

The screenshot shows the Scopserv web interface for configuring a DHCP Subnet. The left sidebar shows a navigation tree with 'Configuration' > 'Network' > 'DHCP Server' selected. The main content area is titled 'DHCP Server:' and has tabs for 'Configuration', 'Subnet', 'Dynamic DHCP', 'Static DHCP', and 'Classes'. The 'Subnet' tab is active, showing a 'Subnet' configuration form with tabs for 'General', 'DNS Configuration', and 'DHCP Options'. The 'General' tab is selected, displaying the following fields:

Interface:	LAN (eth0)
* Start IP Address:	172 . 16 . 1 . 100
* End IP Address:	172 . 16 . 2 . 254
* Gateway:	172 . 16 . 1 . 1

Below the form are 'Add' and 'Cancel' buttons. A legend at the bottom indicates that a red asterisk (*) denotes a 'Required Field' and a refresh icon indicates 'Page Refresh on Change'.

Network Configuration – DHCP Subnet Configuration

- Enter scopserv.local into the Domain Name field.
- Using the DHCP table enter the LAN address of the local server.
- When done click on the DHCP Options tab.

DHCP Server:

Configuration Subnet Dynamic DHCP Static DHCP Classes

Subnet

General DNS Configuration DHCP Options

Domain Name : scopserv.local

* Primary :	172	. 16	. 1	. 1
Secondary :	8	. 8	. 8	. 8

Add Cancel



Network Configuration – DHCP Subnet Configuration

- Using the DHCP table enter the FQDN of the local server into the TFTP Server Name and Time Server (NTP) fields.
- Enter -18000 (GMT-5) into the Time Offset (in seconds) field to configure the DHCP clients into time zone EST (or applicable time zone).
- When done click on Add.

The screenshot shows the 'DHCP Server' configuration window with the 'Subnet' tab selected. Under the 'DHCP Options' sub-tab, the following fields are visible:

Default WINS server:	
TFTP Server Name:	1000.scopserv.local
Next Server (Bootp):	
Bootfile Name:	
Time Server (NTP):	1000.scopserv.local
Time Offset (in seconds):	-18000
HTTP Server Address (Option 120):	
TFTP Server Address (Option 128):	
802.1Q VLAN ID (Option 132):	
802.1P L2 Priority (Option 133):	
Diffserv Code Point (Option 134):	
TFTP Server Address (Option 150):	
Avaya Support (Option 242):	
SVP Server Address (Option 151):	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
OAI Server Address (Option 152):	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>

At the bottom of the form, there are 'Add' and 'Cancel' buttons.



Network Configuration – General Services Startup

- From the tab General>Bootup Services click on Edit and put a checkbox next to Network, DHCP Server.
- Apply Change when done.

Bootup Services:

Start at bootup:

Network :	<input checked="" type="checkbox"/>
Firewall :	<input checked="" type="checkbox"/>
Traffic Shaper :	<input type="checkbox"/>
DHCP Server :	<input checked="" type="checkbox"/>
Dynamic DNS :	<input type="checkbox"/>
DNS Server :	<input checked="" type="checkbox"/>
VPN Server (PPTPd) :	<input type="checkbox"/>
Radius Server (AAA) :	<input type="checkbox"/>

Apply Change Cancel



Network Configuration – Network Commit

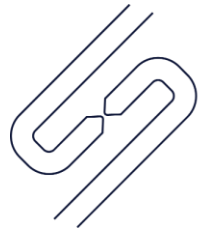
- Click on Commit to write all of the changes.

The screenshot shows the ScopTEL IP PBX web interface. At the top, there is a navigation bar with tabs for General, Network, Firewall, Traffic Shaper, DHCP Server, DNS Server, VPN Client/Server, Radius Server, and Options. The 'Commit' button is highlighted with a red circle and a green checkmark. Below the navigation bar, a yellow message box states: 'Configuration saved. You must click on Commit button in order to apply Change.' The main content area is titled 'Services Status:' and displays the status of various services:

Service	Status	Actions
Network	Running	Restart Network
Firewall	Stopped	Start Service
Traffic Shaper	Service Disabled	
DHCP Server	Stopped	Start Service
Dynamic DNS	Service Disabled	
DNS Server	Running	Restart Service, Stop Service
VPN Server (PPTPd)	Service Disabled	
Radius Server (AAA)	Service Disabled	

At the bottom of the Services Status section, there are buttons for 'Edit Services' and 'Refresh'.





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Congratulations

