

Check Point Software Technologies LTD.ä

How to Configure Meta IP, DNS and DHCP Server

Event: Partner Exchange Conference

Date: October 18, 1999

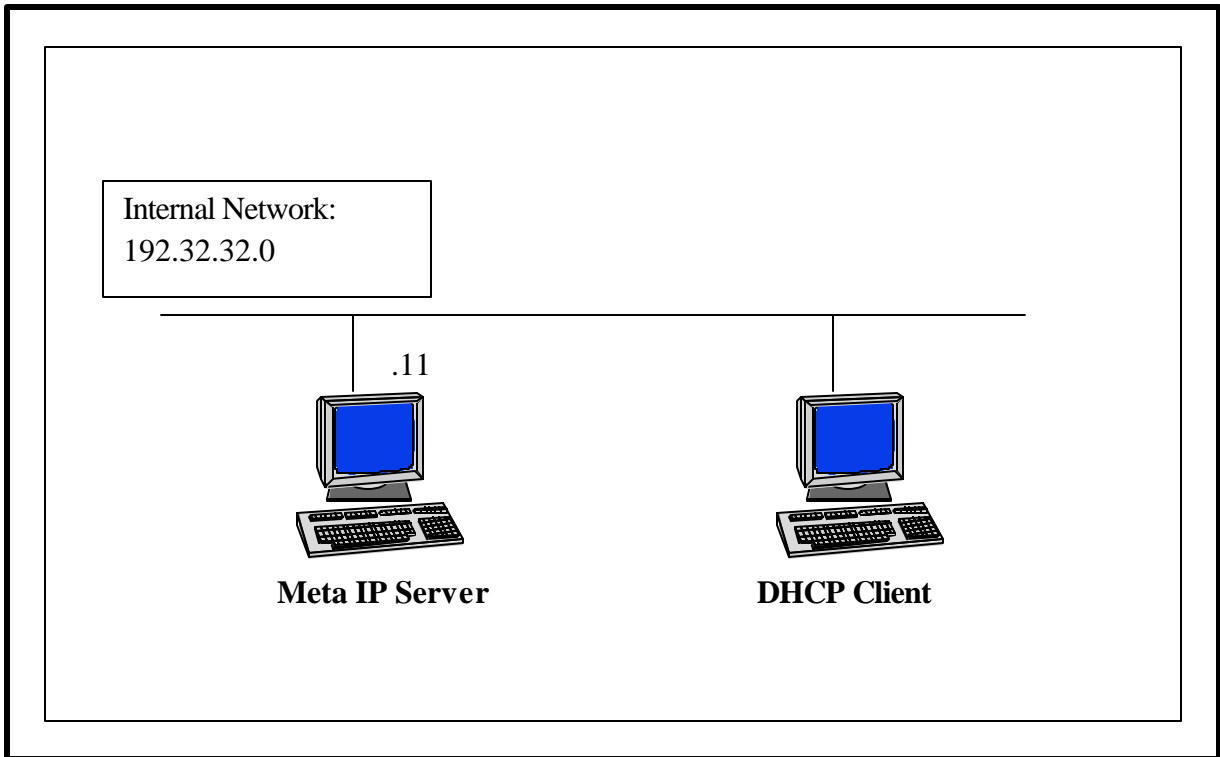
Revision 1.0

Author: Jeffrey L. Schwartz, Area Technical Consultant, NYC

Goal of the Demo:

- Setup Meta IP as a DNS and DHCP Server and demonstrate the ability for clients to register leases and resolve from the Meta IP Server.

Network Diagram:



Necessary Equipment:

- NT 4.0 Service Pack 4 for Meta IP Server
- W95/98/NT for Client Machine

IP Management has become a significant security issue as the proliferation of DHCP and Network Address Translation become more widespread. The ability to retain historical as well as real-time records of a network's IP infrastructure is crucial to maintaining a secure and manageable network. Meta IP is the industry leading IP management product in terms of both functionality and ease of use, the most crucial concerns of IT Managers.

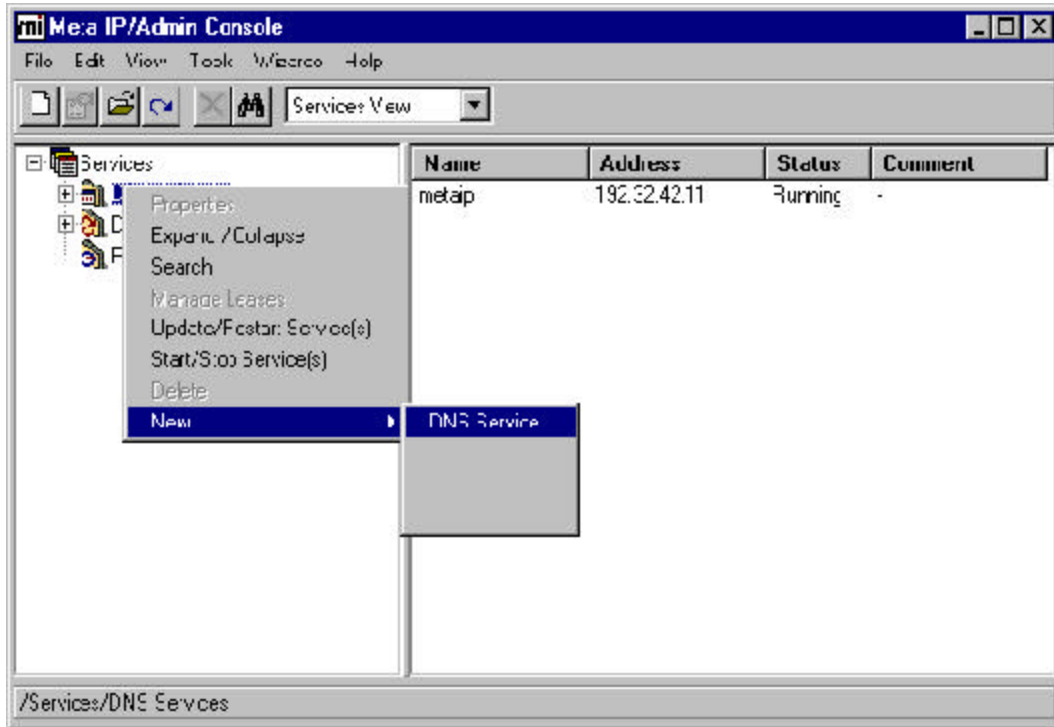
DNS Setup:

Meta IP is based on BIND 8.1.2. Its configuration is done entirely from a GUI interface.

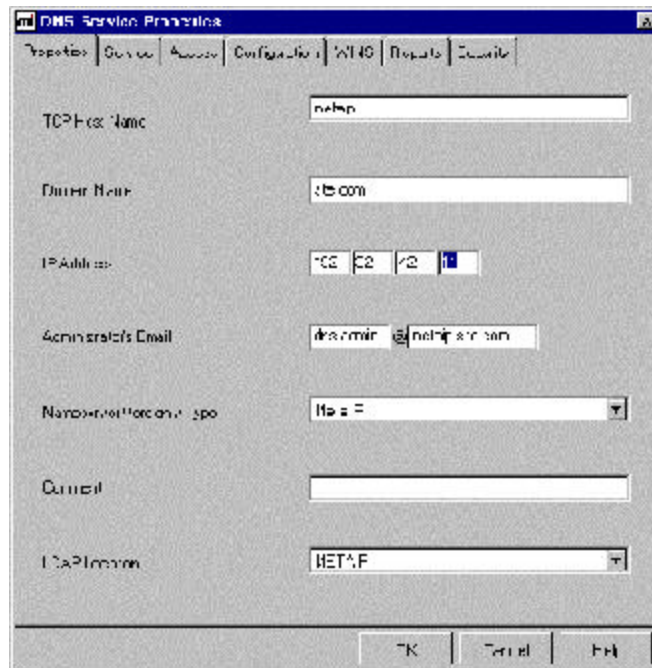
The Meta IP Admin Console is launched from:

Start → *Programs* → *Check Point Meta IP* → *MIP Admin Win32*

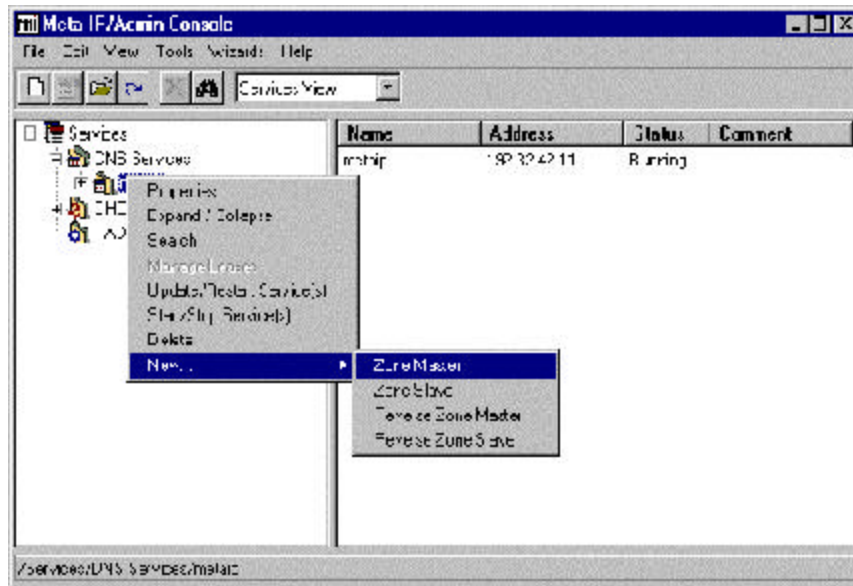
In configuring DNS, the definition of the Service must be done first.



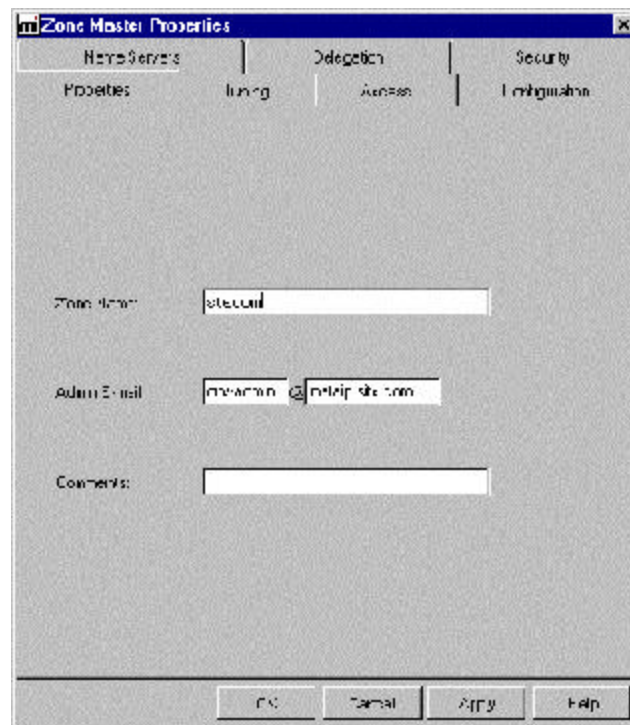
In creating an IP Management architecture, first define a DNS service.



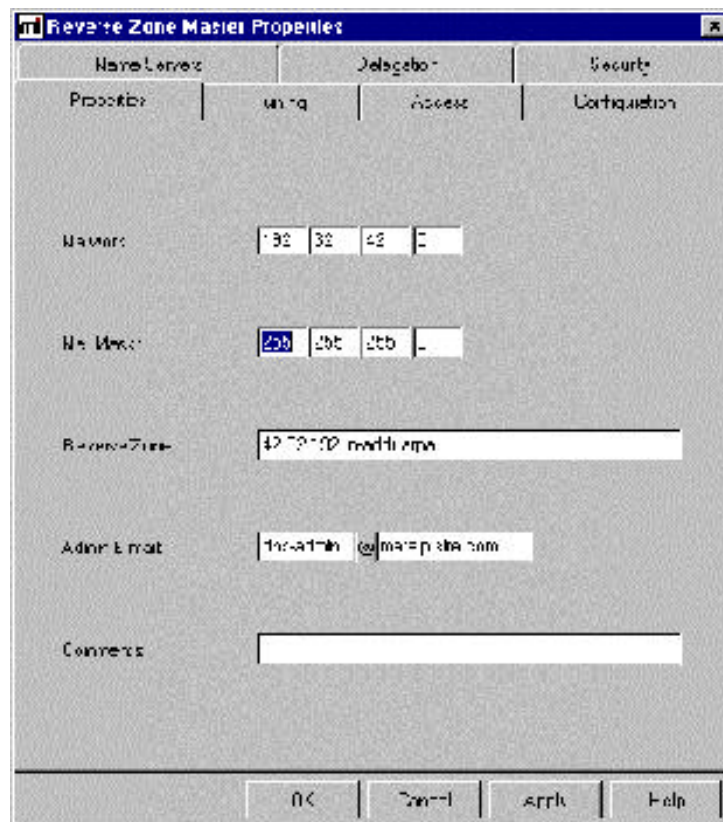
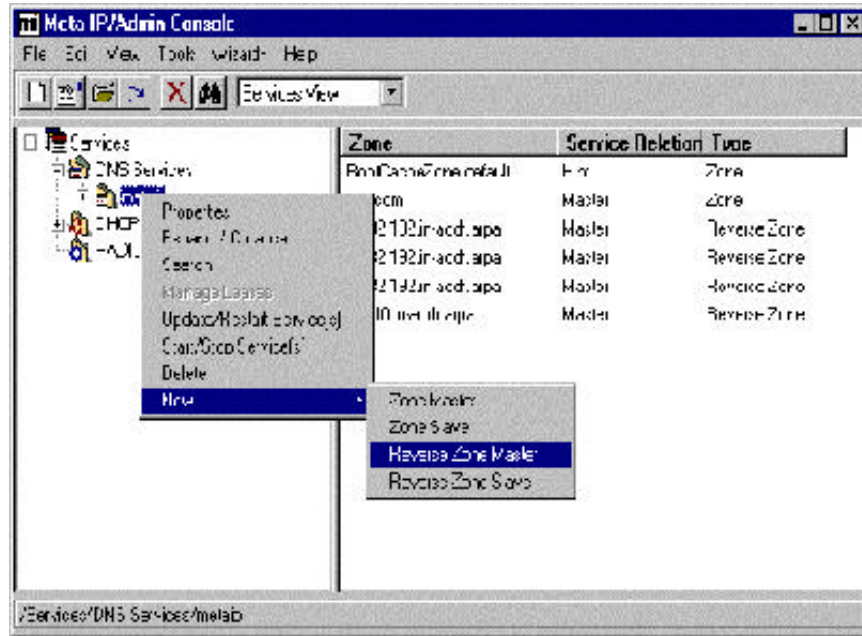
After creating a DNS service with which all zone queries will take place, you must create a zone. A zone is a hierarchy of domains and will act as an authority on the particular domain.



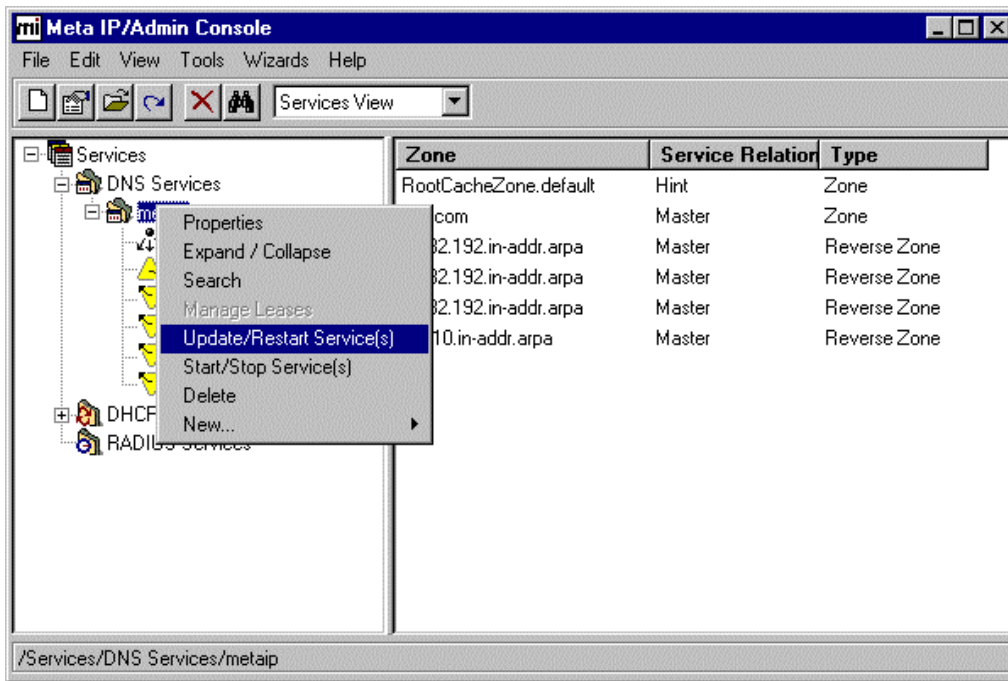
You must then define the domain that this particular Zone file will be a Master for.



You must also configure a Reverse Zone Master Record for reverse lookups. In this record you specify each network that lookups are accepted from.

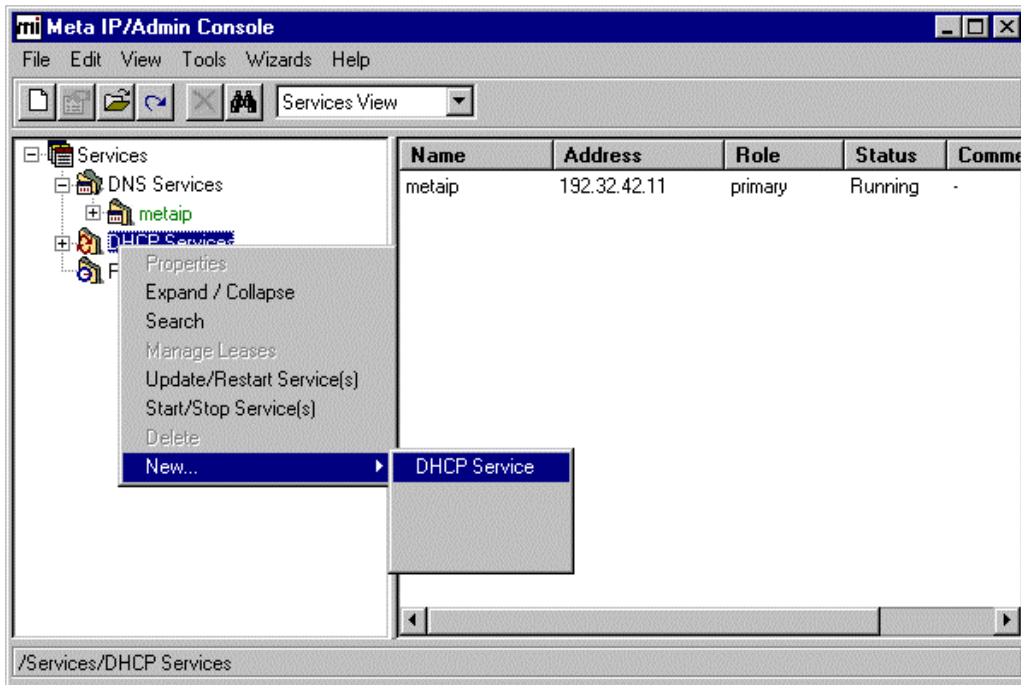


After creating the DNS service, with a Zone Master and Reverse Zone Master, the DNS Service can be started. Zone Resources can be added in the Zone Master Tree.

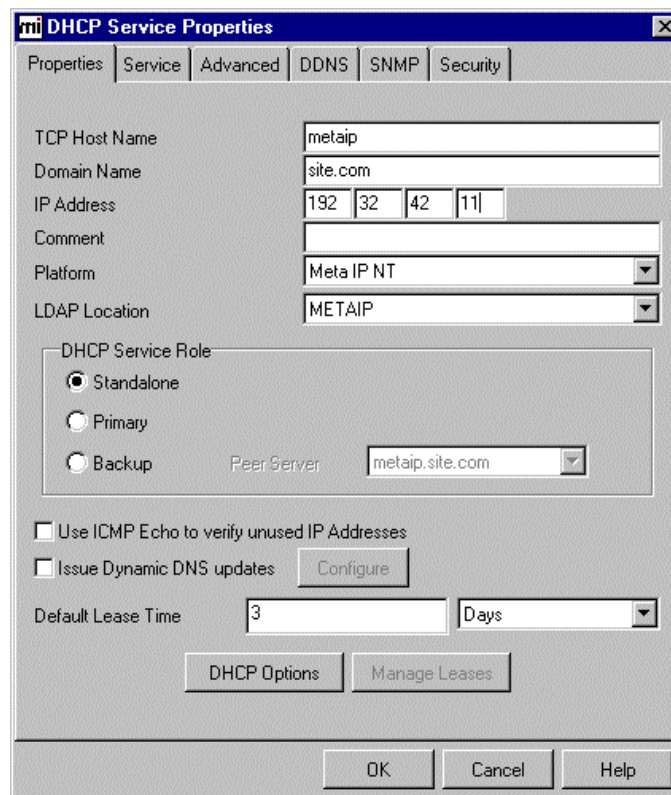


DHCP Setup:

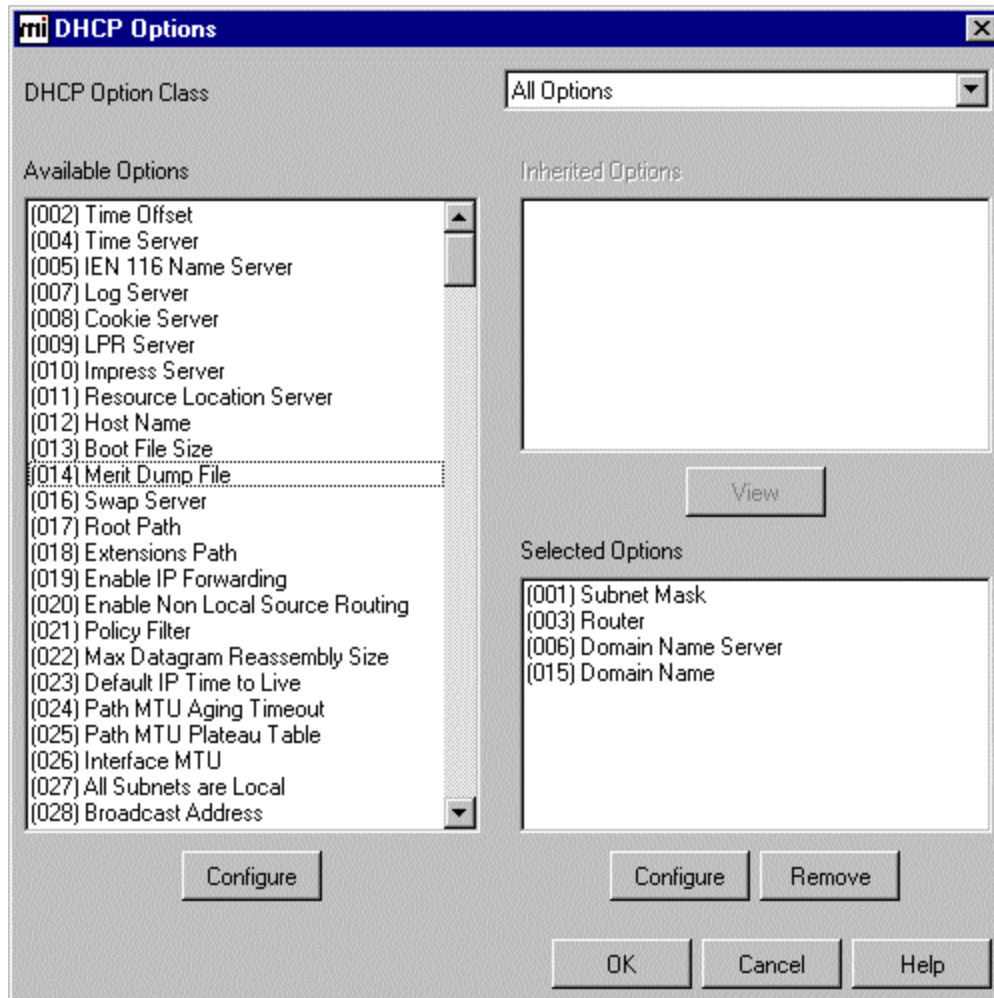
First create a DHCP service similar to creating a DNS Service.



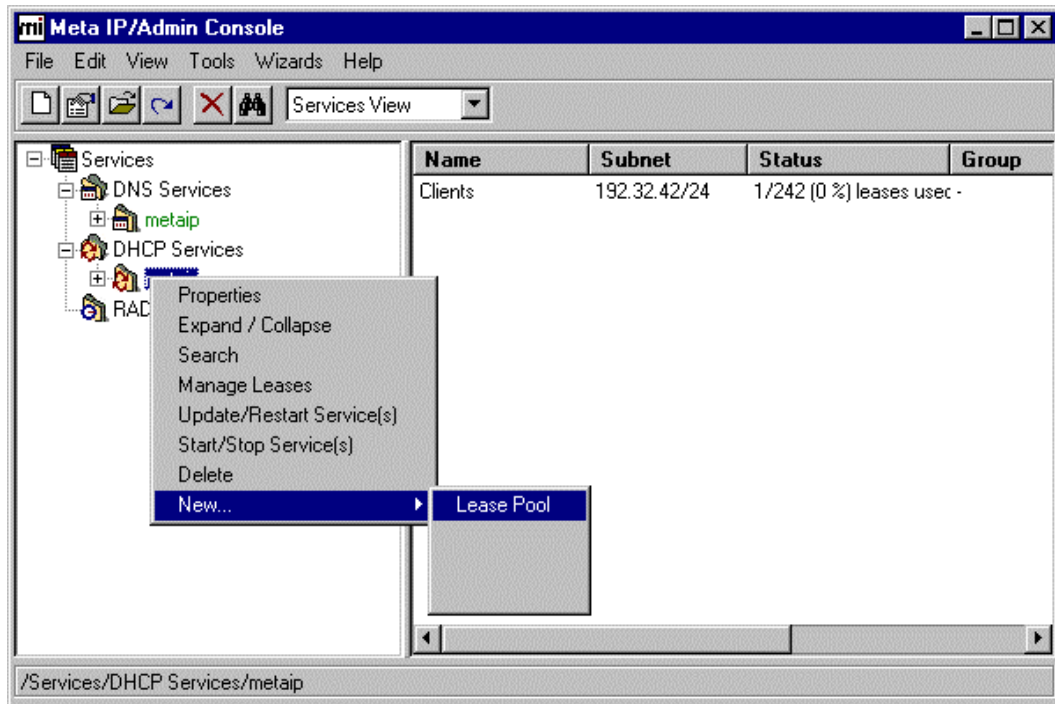
Provide the Hostname, Domain and IP Address of the server.



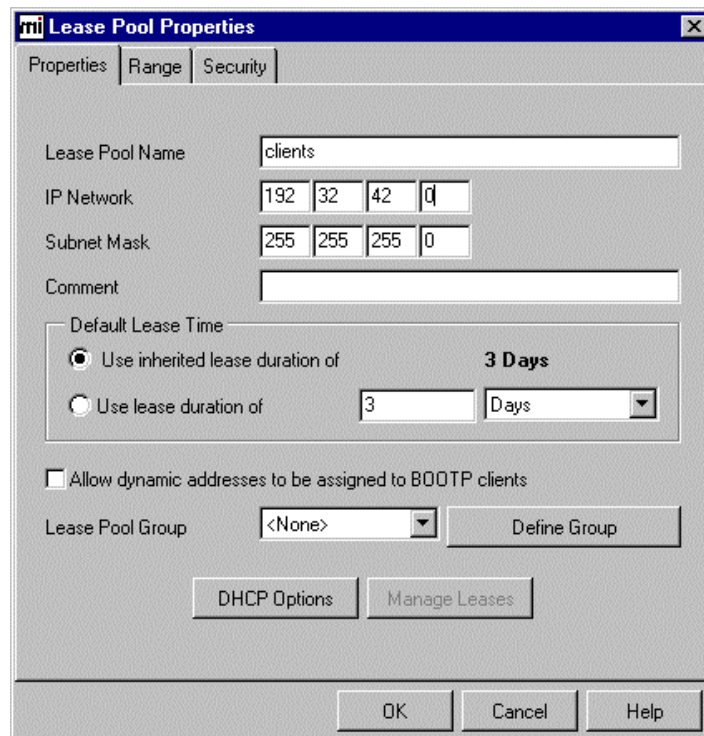
After specifying the server information, select the criteria that will be pushed down to DHCP clients as they successfully establish a network connection.



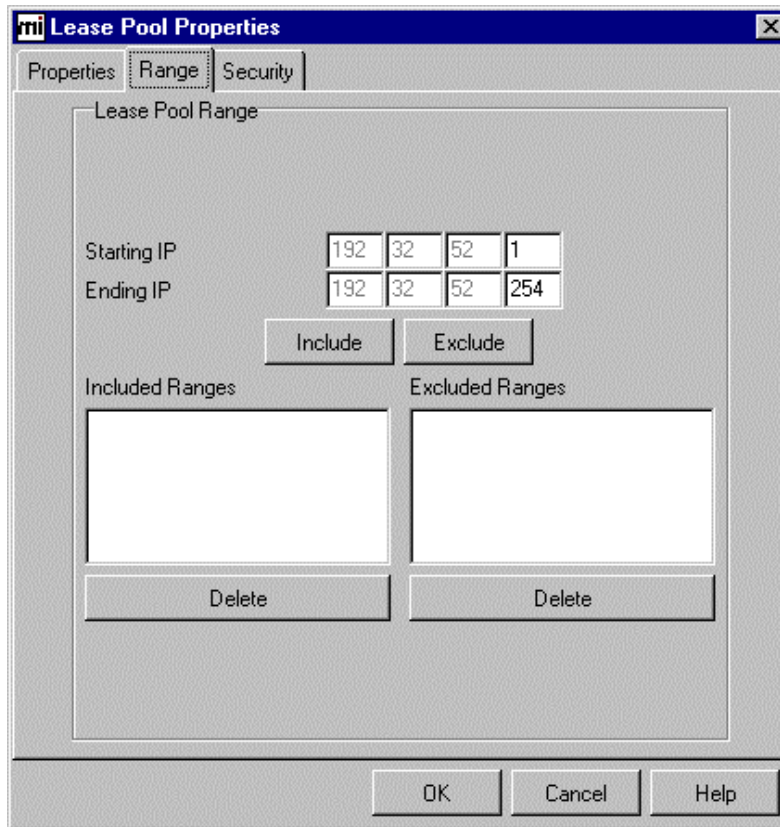
After defining the DHCP Options, create a Lease Pool from which the client IP Addresses will be assigned.



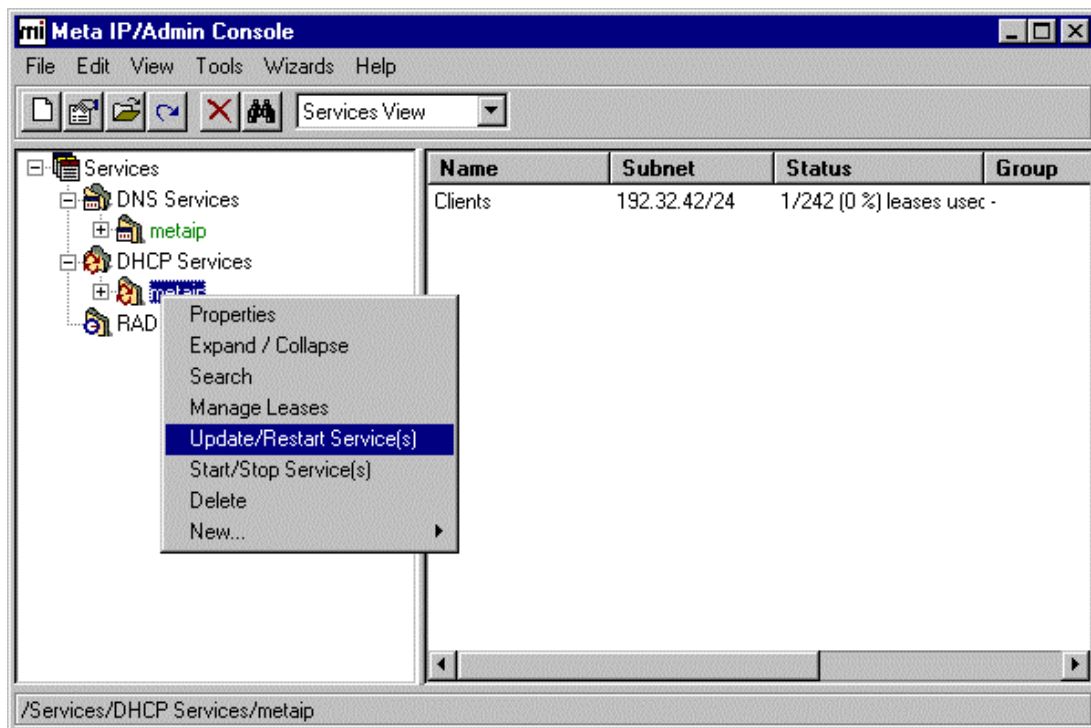
In creating the Lease Pool range, specify the network from which addresses will be assigned.



On the Range Tab, Inclusion and Exclusion ranges can be specified within the Network.



Start the DHCP Service.



After the Client Machine boots up, it acquires an address lease.

```
Windows NT IP Configuration
  Host Name . . . . . : dhcp_client.site.com
  DNS Servers . . . . . : 192.32.42.11
  Node Type . . . . . : Broadcast
  NetBIOS Scope ID. . . . . :
  IP Routing Enabled. . . . . : No
  WINS Proxy Enabled. . . . . : No
  NetBIOS Resolution Uses DNS : Yes

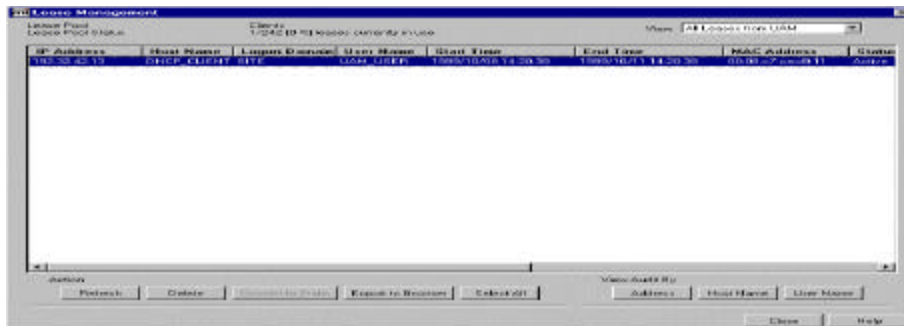
Ethernet adapter N1001:
  Description . . . . . : Compaq Ethernet/FastEthernet or Gigabit NIC
  Physical Address. . . . . : 00-08-C7-CA-D9-11
  DHCP Enabled. . . . . : Yes
  IP Address. . . . . : 192.32.42.13
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 192.32.42.1
  DHCP Server . . . . . : 192.32.42.11
  Lease Obtained. . . . . : Friday, October 08, 1999 9:21:05 AM
  Lease Expires . . . . . : Monday, October 11, 1999 9:21:05 AM
```

A simple Ping test can verify the address to IP resolution from the DNS server.

```
C:\> ping fw1manager

Pinging fw1manager.site.com [192.32.42.10] with 32 bytes of data:
Reply from 192.32.42.10: bytes=32 time<10ms TTL=128
Reply from 192.32.42.10: bytes=32 time<10ms TTL=128
Reply from 192.32.42.10: bytes=32 time<10ms TTL=128
Reply from 192.32.42.10: bytes=32 time<10ms TTL=128
```

The Meta IP Admin Console verifies the lease credentials with the User to Address Mapping (UAM)



Troubleshooting

To troubleshoot DHCP, use the

```
Ipconfig /all (NT machines)                winipcfg (WIN 95/98)
- the "release" option - will release a DHCP lease
- the "renew" option - will ask the DHCP Server for a new DHCP lease
```

To Troubleshoot DNS

The "nslookup" command is a great tool to validate the configuration of the DNS server. You can use this to bind to any DNS server and walk through a domain.

```
c:\ >nslookup
Default Server:  meta.site.com
Address:  192.32.42.11
> help
Commands:  (identifiers are shown in uppercase, [] means optional)
NAME      - print info about the host/domain NAME using default server
NAME1 NAME2  - as above, but use NAME2 as server
help or ?  - print info on common commands
set OPTION - set an option
  all      - print options, current server and host
  [no]debug - print debugging information
  [no]d2   - print exhaustive debugging information
  [no]defname - append domain name to each query
  [no]recurse - ask for recursive answer to query
  [no]search - use domain search list
  [no]vc   - always use a virtual circuit
  domain=NAME - set default domain name to NAME
  srchlist=N1[/N2/.../N6] - set domain to N1 and search list to N1,N2, etc.
  root=NAME - set root server to NAME
  retry=X   - set number of retries to X
  timeout=X - set initial time-out interval to X seconds
  type=X    - set query type (ex. A,ANY,CNAME,MX,NS,PTR,SOA,SRV)
  querytype=X - same as type
  class=X   - set query class (ex. IN (Internet), ANY)
  [no]msxfr - use MS fast zone transfer
  ixfrver=X - current version to use in IXFR transfer request
server NAME - set default server to NAME, using current default server
lserver NAME - set default server to NAME, using initial server
finger [USER] - finger the optional NAME at the current default host
root         - set current default server to the root
ls [opt] DOMAIN [> FILE] - list addresses in DOMAIN (optional: output to FILE)
  -a        - list canonical names and aliases
  -d        - list all records
  -t TYPE   - list records of the given type (e.g. A,CNAME,MX,NS,PTR etc.)
view FILE   - sort an 'ls' output file and view it with pg
exit       - exit the program

>
```