

# Dynamische IP-Adressvergabe mit DHCP

## Inhalt

- ▶ Dynamische Konfiguration der TCP/IP-Einstellungen von Client-Rechnern
  - DHCP (=dynamic host configuration protocol) kann mehr als nur IP-Adressen zu vergeben:
  - IP-Adresse und Netzmaske
  - Default-Route (hier immer 192.168.0.3 über den Router fli4l)
  - DNS-Server (hier auch fli4l)
  - dynamische Vergabe statischer IP-Adressen
  - Vergabe von Rechnernamen (auch mit Windows?)
  - dynamische Aktualisierung des DNS

## Ressourcen

- ▶ DHCP wird als Referenzimplementierung vom *Internet Software Consortium* gepflegt
  - [www.isc.org/products/DHCP/](http://www.isc.org/products/DHCP/)
- ▶ Manual-Page `man dhcpd.conf`
- ▶ Mohr, J.:  
Network Nirwana. How to make Network Configuration as easy as DHCP.  
Linux Magazine April 2000  
[www.linux-mag.com](http://www.linux-mag.com)

## Konfiguration

- ▶ Konfigurationsdatei `/etc/dhcpd.conf`
  - Starten `/etc/init.d/dhcpd start`
  - Stoppen `/etc/init.d/dhcpd stop`
  - Neu starten `/etc/init.d/dhcpd restart`
- ▶ Grundkonfiguration

```
# dhcpd.conf
default-lease-time 86400;
max-lease-time 172800;
option routers 192.168.0.3;
option domain-name "burg.bildung-rp.de";
option domain-name-servers 192.168.0.3;
ddns-update-style ad-hoc;
```

## Adress-Pools

- ▶ DHCPD darf den Bereich von .10 bis .50 selbst an Unbekannte vergeben

```
subnet 192.168.0.0 netmask 255.255.255.0 {  
    range 192.168.0.10 192.168.0.50;  
}
```

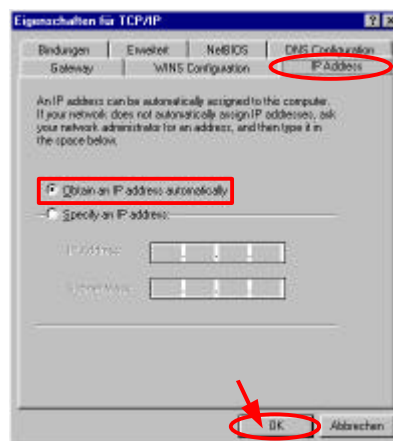
- ▶ bekannte Rechner werden **dynamisch mit statischen Adressen** versorgt

```
host B04WS3 {  
    hardware ethernet 00:01:02:9E:31:2C;  
    fixed-address 192.168.0.203;  
    option host-name "B04WS3";  
    ddns-hostname B04WS3;  
}
```

MAC-Adresse

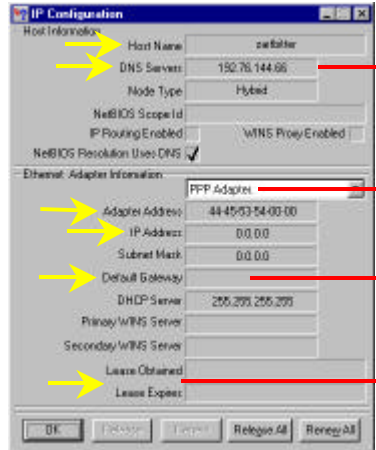
muss vom DNS-Server unterstützt werden!

## Windows-Konfiguration



# Test der Konfiguration

## Programm `winiipcfg`



The screenshot shows the 'IP Configuration' dialog box with the following fields and annotations:

- Host Information:**
  - Host Name: zeifalter
  - DNS Servers: 192.168.144.66 (Annotated: 'Fl4I, also 192.168.0.3')
  - Node Type: Hybrid
  - NetBIOS Scope Id: (empty)
  - IP Routing Enabled: (unchecked)
  - WINS Proxy Enabled: (unchecked)
  - NetBIOS Resolution Uses DNS: (checked)
- Ethernet Adapter Information:**
  - Adapter: PPP Adapter (Annotated: 'normalerweise Netzkarte')
  - Adapter Address: 44-45-93-54-00-00
  - IP Address: 0.0.0.0
  - Subnet Mask: 0.0.0.0
  - Default Gateway: (empty) (Annotated: 'Fl4I, also 192.168.0.3')
  - DHCP Server: 255.255.255.255
  - Primary WINS Server: (empty)
  - Secondary WINS Server: (empty)
  - Lease Obtained: (empty)
  - Lease Expires: (empty) (Annotated: 'Gültigkeitsdauer')

Buttons at the bottom: OK, Cancel, Apply, Release All, Renew All.